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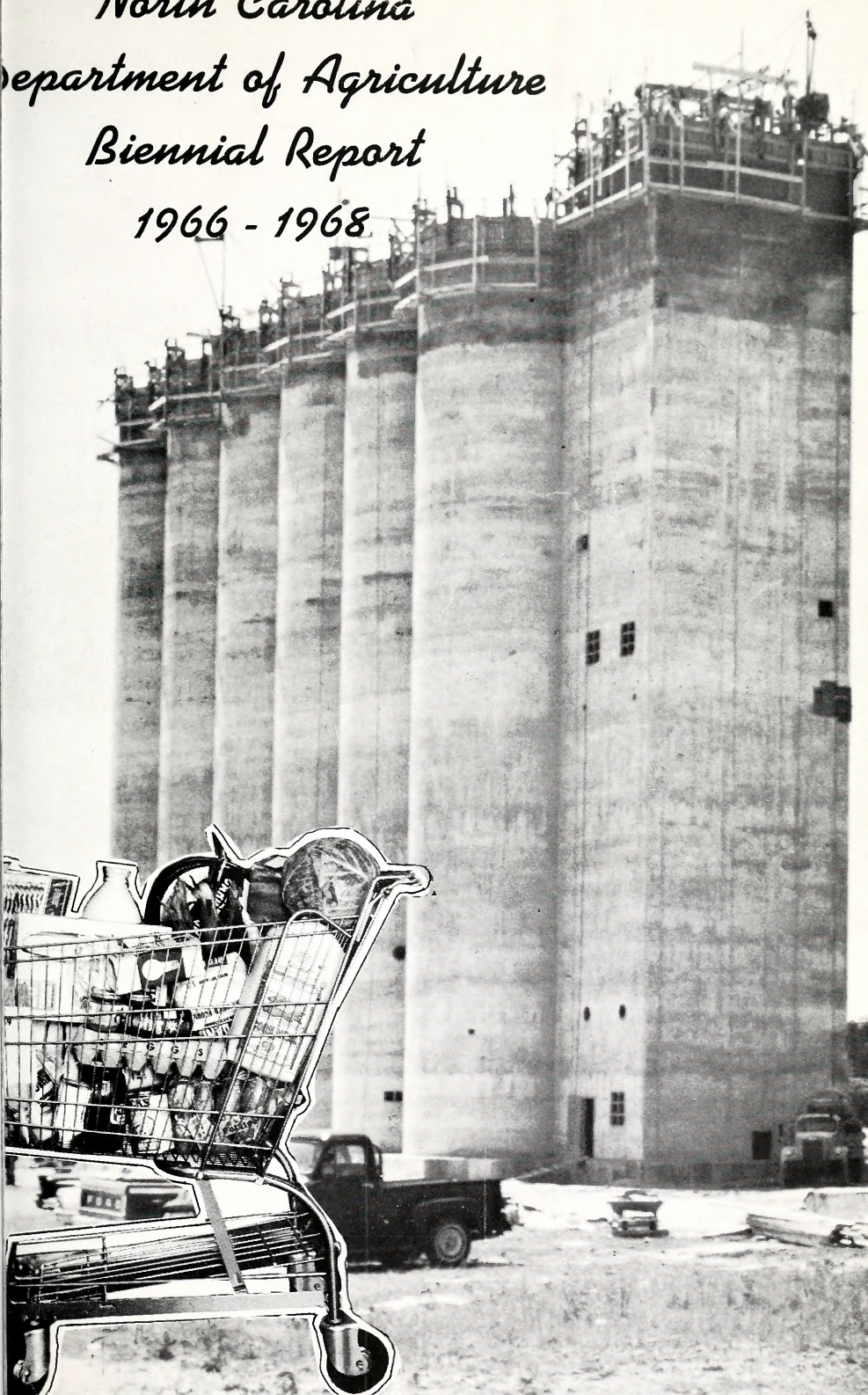








*North Carolina  
Department of Agriculture  
Biennial Report  
1966 - 1968*





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# BIENNIAL REPORT

*for 1966-1968*

NORTH CAROLINA  
DEPARTMENT OF AGRICULTURE

JAMES A. GRAHAM, COMMISSIONER  
JOHN L. REITZEL, ASSISTANT COMMISSIONER

RALEIGH, N. C.

## **ABOUT OUR COVER PICTURE**

Livestock and feed grain production, in combination, offer the biggest potential for expanding this State's agricultural economy. We have been moving toward realizing on this potential, but we are far from having exhausted it. Therefore, our cover picture symbolizes the fact that we are in the process of truly building our economy. The grain storage facility, shown here nearing completion, indicates how we are making strides toward providing the facilities for growth. Both commercial and on-farm storage facilities have been sharply increased in recent years, but there is need for more, and we are still building. The market basket in the foreground symbolizes what it will mean to processors, consumers and the State's over-all economy when we fully realize on this great potential.



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## STATE BOARD OF AGRICULTURE

June 30, 1968

JAMES A. GRAHAM, *Commissioner*  
*Ex-Officio Chairman*



J. Atwell Alexander  
Stony Point



Richard N. Barber, Jr.  
Waynesville



Fred N. Colvard  
Jefferson



Guy E. Fisher  
Pendleton



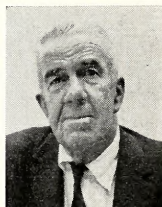
Claude T. Hall  
Roxboro



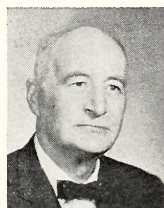
George P. Kittrell  
Corapeake



Charles F. Phillips  
Thomasville



J. Hawley Poole  
West End



Henry Gray Shelton  
Speed



David Townsend, Jr.  
Rowland

809185- Others who served on the Board during a part of this bien-  
nium were:

THOMAS O. GILMORE.....Julian  
THOMAS G. JOYNER.....Garysburg

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JAMES A. GRAHAM

*Commissioner of Agriculture*





JOHN L. REITZEL

*Assistant Commissioner of Agriculture*

# PERSONNEL

## of the

### STATE DEPARTMENT OF AGRICULTURE

**June 30, 1968**

JAMES A. GRAHAM, *Commissioner*

#### GENERAL ADMINISTRATION

##### ADMINISTRATION

JOHN L. REITZEL .....	<i>Assistant Commissioner</i>
ELIZABETH B. BAREFOOT .....	<i>Stenographer III</i>
CONSTANCE T. HALEY .....	<i>Typist II</i>
HAZEL I. HORNER .....	<i>Stenographer III</i>
VIRGINIA P. JOHNSON .....	<i>Administrative Secretary</i>

##### ACCOUNTS

ALEX M. LEWIS .....	<i>Accountant IV</i>
MAVOREEN S. HINTON .....	<i>Typist II</i>
GERTRUD H. LARE .....	<i>Personnel Assistant I</i>
BECKY E. McGEHEE .....	<i>Accounting Clerk I</i>
ELIZABETH W. MITCHNER .....	<i>Accounting Clerk III</i>
PHYLLIS P. O'NEAL .....	<i>Accounting Clerk II</i>
ANN R. PAGE .....	<i>Stenographer II</i>
BEULAH B. PEARCE .....	<i>Cashier I</i>
PHILLIP K. POWELL .....	<i>Personnel Officer</i>
LINDA A. RHODES .....	<i>Stenographer III</i>
SARAH K. SANDERSON .....	<i>Accounting Clerk I</i>
BETTY A. SMITH .....	<i>Accounting Clerk I</i>
PEGGY Y. SMITH .....	<i>Cashier II</i>
BETTY A. STEWART .....	<i>Stenographer II</i>
MAURICE A. WEAVER .....	<i>Accountant II</i>
LUNELLE YEARGAN .....	<i>Accounting Clerk IV</i>

##### PUBLICITY AND PUBLICATIONS

M. PAULINE DECOSTA .....	<i>Information &amp; Communication—Specialist III</i>
JONATHAN W. MONTAGUE .....	<i>Information &amp; Communication—Specialist I</i>
BETTYE T. ROGERS .....	<i>Clerk II</i>
WILLIE L. SMITH .....	<i>Clerk I</i>
LOUISE T. WHITE .....	<i>Stenographer II</i>

##### CUSTODIAL

HENRY L. HALL .....	<i>Stock Clerk I</i>
ROBERT HARRIS .....	<i>Stock Clerk II</i>

#### INSPECTION AND REGULATION

##### INSPECTION

ARTHUR G. CAMPBELL, JR. ....	<i>Feed, Fertilizer &amp; Pesticide Inspector</i>
EWELL E. EVANS .....	<i>Tax Auditor IV</i>
LOREN I. GILBERT .....	<i>Tax Auditor III</i>
HARVEY C. MCPHAIL .....	<i>Feed, Fertilizer &amp; Pesticide Inspector</i>
THOMAS M. PARKER .....	<i>Feed, Fertilizer &amp; Pesticide Inspector</i>
JAMES R. STEVENS .....	<i>Feed, Fertilizer &amp; Pesticide Inspection Supervisor</i>
CARL C. WILLIAMS .....	<i>Feed, Fertilizer &amp; Pesticide Inspector</i>



## ENTOMOLOGY

GEORGE D. JONES .....	<i>State Entomologist</i>
HUGH I. ALFORD, JR. ....	<i>Entomologist II</i>
ALFRED S. ELDER .....	<i>Entomologist II</i>
JAMES F. GREENE .....	<i>Entomologist III</i>
ROY M. SCHMARKEY .....	<i>Entomologist II</i>
JESSE F. SESSIONS .....	<i>Entomologist II</i>
MAXINE M. SATTERFIELD ..	<i>Stenographer II</i>
HOWARD M. SINGLETARY, JR.	<i>Entomologist II</i>
D. L. WRAY .....	<i>Entomologist III</i>

## WEIGHTS AND MEASURES

JOHN I. MOORE .....	<i>Director, Weights and Measures, Gasoline and Oil Inspection</i>
MARION L. KINLAW, JR. ....	<i>Supervisor, Weights and Measures, Gasoline and Oil Inspection</i>
CECIL C. ABERNATHY .....	<i>Weights and Measures Inspector</i>
JAMES G. BARNES .....	<i>Trades Helper</i>
WALTER R. BURNETTE .....	<i>Weights and Measures Inspector</i>
THOMAS W. CLONINGER .....	<i>Weights and Measures Inspector</i>
SUE L. FRY .....	<i>Stenographer II</i>
JAMES T. GURGANUS .....	<i>Trades Helper</i>
GRADY F. HALL .....	<i>Weights and Measures Inspector</i>
LESTER B. HARDIN .....	<i>Weights and Measures Inspector</i>
GROVER R. KISER .....	<i>Weights and Measures Inspector</i>
ALAN R. MOORE .....	<i>Trades Helper</i>
DIANNE P. NICHOLS .....	<i>Stenographer II</i>
RANDOLPH F. PEAKS .....	<i>Weights and Measures Inspector</i>
DONNIE G. PERRY .....	<i>Weights and Measures Inspector</i>
WILLIAM H. PERRY .....	<i>Liquid Fertilizer Specialist</i>
LEROY S. PLYLER .....	<i>Weights and Measures Inspector</i>
NED A. POWELL .....	<i>Weights and Measures Inspector</i>
THOMAS W. SCOTT .....	<i>Weights and Measures Inspector</i>
WILLIAM D. TAYLOR .....	<i>Weights and Measures Inspector</i>
JAMES P. WHITFIELD, SR. ....	<i>Weights and Measures Inspector</i>
DAN CECIL WORLEY .....	<i>Weights and Measures Inspector</i>

## MEAT AND POULTRY INSPECTION

EARL W. STAPP .....	<i>Meat &amp; Poultry Inspection Supervisor</i>
JOHN C. BAREFOOT .....	<i>Meat &amp; Poultry Inspector I</i>
CLARENCE B. BARKER .....	<i>Meat &amp; Poultry Inspector I</i>
PAUL R. BARNHARDT .....	<i>Meat &amp; Poultry Inspector I</i>
JULIAN S. BARNHILL .....	<i>Meat &amp; Poultry Inspector I</i>
WALTER V. BATCHELOR .....	<i>Meat &amp; Poultry Inspector I</i>
JULIAN C. BEALE .....	<i>Meat &amp; Poultry Inspector I</i>
WADE W. BEASLEY .....	<i>Meat &amp; Poultry Inspector I</i>
CLAUDE W. BENTLEY .....	<i>Meat &amp; Poultry Inspector I</i>
WILEY M. BIGGERS .....	<i>Meat &amp; Poultry Inspector I</i>
WALLACE E. BIRCH .....	<i>Veterinarian I</i>
TRAVIS B. BOWICK .....	<i>Meat &amp; Poultry Inspector I</i>
VAN L. BOWMAN .....	<i>Meat &amp; Poultry Inspector I</i>
ROBERT B. BOYD .....	<i>Meat &amp; Poultry Inspector I</i>
BILLY R. BRADSHAW .....	<i>Meat &amp; Poultry Inspector I</i>
WOLF F. BRANGS .....	<i>Meat &amp; Poultry Inspector I</i>
JASPER F. BRISSON, JR. ....	<i>Meat &amp; Poultry Inspector I</i>
WILEY G. BROUGHTON .....	<i>Meat &amp; Poultry Inspector I</i>
HENRY C. BROWN .....	<i>Meat &amp; Poultry Inspector I</i>
ALDEN E. BRYSON .....	<i>Meat &amp; Poultry Inspector I</i>
ALVIN G. BUCHANAN .....	<i>Meat &amp; Poultry Inspector I</i>

WILLIAM C. BUCHANAN	<i>Meats &amp; Poultry Inspector II</i>
FLOYD F. BUNN	<i>Meat &amp; Poultry Inspector I</i>
EDDIE W. CAIN, JR.	<i>Meat &amp; Poultry Inspector I</i>
HUGH B. CAMPBELL	<i>Veterinarian I</i>
JAMES M. CASHWELL	<i>Meat &amp; Poultry Inspector I</i>
SYLVESTER H. CLAYTON	<i>Meat &amp; Poultry Inspector I</i>
ALGIE D. COBB	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM E. CRAWFORD	<i>Meat &amp; Poultry Inspector I</i>
CHARLES M. CREDLE	<i>Meat &amp; Poultry Inspector I</i>
JAMES E. CREEL	<i>Meat &amp; Poultry Inspector I</i>
LOLA I. CURTIS	<i>Meat &amp; Poultry Inspector I</i>
LEWIS J. DEMARCUS	<i>Meat &amp; Poultry Inspector I</i>
NORMAN C. EASON, SR.	<i>Meat &amp; Poultry Inspector I</i>
CECIL E. EDWARDS	<i>Meat &amp; Poultry Inspector I</i>
WAITUS H. EDWARDS	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM D. ESTEP	<i>Meat &amp; Poultry Inspector I</i>
RUIE A. EUBANKS, JR.	<i>Meat &amp; Poultry Inspector I</i>
JOHN F. FORD	<i>Meat &amp; Poultry Inspector I</i>
ROBERT L. FOSTER	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM K. FRY	<i>Meat &amp; Poultry Inspector I</i>
THOMAS E. N. GLEAVE	<i>Meat &amp; Poultry Inspector I</i>
CLIFFORD W. GOODWIN	<i>Meat &amp; Poultry Inspector I</i>
MAE T. GOWER	<i>Meat &amp; Poultry Inspector I</i>
HEINZ GUTTENBERGER	<i>Meat &amp; Poultry Inspector I</i>
HENRY L. HALL	<i>Meat &amp; Poultry Inspector I</i>
FELIX HARDIN	<i>Meat &amp; Poultry Inspector I</i>
HUBERT L. HELMS	<i>Meat &amp; Poultry Inspector I</i>
HENRY H. HERMAN	<i>Meat &amp; Poultry Inspector I</i>
JAMES F. HOLCOMB	<i>Meat &amp; Poultry Inspector I</i>
CONLEY G. ISENBERG	<i>Veterinarian I</i>
DALLIE B. JACKSON	<i>Meat &amp; Poultry Inspector I</i>
EUGENE R. JACKSON	<i>Meat &amp; Poultry Inspector I</i>
JAMES M. JACKSON, JR.	<i>Veterinarian I</i>
JAMES T. JACKSON	<i>Meat &amp; Poultry Inspector I</i>
JAMES E. JOHNSON	<i>Meat &amp; Poultry Inspector I</i>
CHARLES E. JONES	<i>Meat &amp; Poultry Inspector I</i>
CORNELIUS W. JONKHEER	<i>Meat &amp; Poultry Inspector I</i>
ARTHUR B. KAUFMAN	<i>Meat &amp; Poultry Inspector I</i>
GEORGE M. KEER	<i>Veterinarian I</i>
WILLIAM P. LASSITER	<i>Meat &amp; Poultry Inspector I</i>
THEODORE LAWSON	<i>Meat &amp; Poultry Inspector I</i>
ALBERT D. LILES, SR.	<i>Meat &amp; Poultry Inspector I</i>
JAMES C. LONG, JR.	<i>Meat &amp; Poultry Inspector I</i>
CHARLES V. LYDAY	<i>Veterinarian I</i>
JOSEPH F. MCCAIN	<i>Meat &amp; Poultry Inspector I</i>
WOODROW E. MCGIMSEY	<i>Meat &amp; Poultry Inspector II</i>
MARGARETE E. MCINTYRE	<i>Meat &amp; Poultry Inspector I</i>
EDMOND G. MASSAD	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM C. MEDLIN	<i>Meat &amp; Poultry Inspector I</i>
RICHARD W. MENIUS	<i>Meat &amp; Poultry Inspector II</i>
MEARL C. METCALF	<i>Meat &amp; Poultry Inspector I</i>
ROBERT R. MILLER	<i>Veterinarian I</i>
CLARE W. NIELSEN	<i>Meat &amp; Poultry Inspector I</i>
THOMAS O. NILSEN	<i>Meat &amp; Poultry Inspector I</i>
JAMES P. OLLIS	<i>Meat &amp; Poultry Inspector I</i>
CHARLES R. OXFORD	<i>Meat &amp; Poultry Inspector I</i>
HERBERT R. PALMER, SR.	<i>Meat &amp; Poultry Inspector I</i>
GLENN O. PARK	<i>Meat &amp; Poultry Inspector I</i>
CHARLES M. PARRISH	<i>Meat &amp; Poultry Inspector I</i>
FRED R. PARRISH	<i>Meat &amp; Poultry Inspector I</i>
CLEVELAND A. PARTIN	<i>Meat &amp; Poultry Inspector I</i>
JULIA S. PHILLIPS	<i>Stenographer II</i>



OPHELIA PICKETT .....	<i>Meat &amp; Poultry Inspector I</i>
ALBERT R. PRICE .....	<i>Meat &amp; Poultry Inspector I</i>
BASIL W. PSYK .....	<i>Veterinarian I</i>
JAMES R. RADFORD .....	<i>Meat &amp; Poultry Inspector II</i>
JOSEPH V. RANDOLPH .....	<i>Meat &amp; Poultry Inspector I</i>
HARVEY G. ROPER .....	<i>Meat &amp; Poultry Inspector I</i>
CLARENCE E. ROSE .....	<i>Meat &amp; Poultry Inspector I</i>
DIXIE B. RUSSELL .....	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM H. SHIRLEY, JR. ....	<i>Meat &amp; Poultry Inspector I</i>
ROXIE R. SILER .....	<i>Meat &amp; Poultry Inspector II</i>
THOMAS L. SINK .....	<i>Meat &amp; Poultry Inspector I</i>
RICHARD W. SPIVEY, SR. ....	<i>Meat &amp; Poultry Inspector I</i>
CHARLES L. STATON, JR. ....	<i>Meat &amp; Poultry Inspector I</i>
WALTER C. STONE .....	<i>Meat &amp; Poultry Inspector I</i>
GEORGE M. SULLIVAN .....	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM G. SULLIVAN .....	<i>Veterinarian I</i>
JAMES W. TILLMAN .....	<i>Meat &amp; Poultry Inspector I</i>
PEGGY R. UPCHURCH .....	<i>Stenographer II</i>
GILDA F. WADE .....	<i>Meat &amp; Poultry Inspector I</i>
HAROLD L. WARLICK .....	<i>Meat &amp; Poultry Inspector I</i>
ZENO H. WEAVER .....	<i>Meat &amp; Poultry Inspector I</i>
JAMES C. WHEELER .....	<i>Meat &amp; Poultry Inspector I</i>
JAMES C. WHITE .....	<i>Meat &amp; Poultry Inspector I</i>
WILLIAM H. WHITE .....	<i>Meat &amp; Poultry Inspector I</i>
LEWIS L. WISEMAN .....	<i>Meat &amp; Poultry Inspector II</i>
LABIN T. WOODLIEF .....	<i>Meat &amp; Poultry Inspector I</i>
RICHARD C. YARBROUGH .....	<i>Meat &amp; Poultry Inspector II</i>

## EGG INSPECTION

BOBBY G. AUSTELL .....	<i>Marketing Specialist I</i>
GUY A. CUTLER .....	<i>Marketing Specialist III</i>
JOSEPHINE HONEYCUTT .....	<i>Stenographer II</i>
GEORGE E. INGRAM .....	<i>Marketing Specialist I</i>
WILSON T. LEGGETT .....	<i>Marketing Specialist I</i>
WILLIAM H. MCCULLEN .....	<i>Marketing Specialist I</i>
ARTHUR C. MCCURRY .....	<i>Marketing Specialist I</i>

## MARKETS

CURTIS F. TARLETON .....	<i>Director of Agricultural Marketing</i>
EUGENE G. BONEY, JR. ....	<i>Marketing Specialist II</i>
ROSALEEN S. BRADY .....	<i>Typist I</i>
WILBUR S. BRANNAN .....	<i>Marketing Specialist III</i>
RUBY P. BRITT .....	<i>Stenographer III</i>
CHARLES L. CAMPBELL, JR. ....	<i>Marketing Specialist IV</i>
EUGENE E. CARROLL, JR. ....	<i>Marketing Specialist III</i>
JOHN H. CYRUS .....	<i>Marketing Specialist IV</i>
CHARLES H. DAVIS .....	<i>Marketing Specialist II</i>
LOUISE T. DUNN .....	<i>Stenographer III</i>
CHARLES D. EDWARDS .....	<i>Marketing Specialist III</i>
CHARLES B. ELKS .....	<i>Marketing Specialist IV</i>
WILLIAM J. FEIMSTER .....	<i>Marketing Specialist III</i>
JOE B. GOURLAY .....	<i>Marketing Specialist III</i>
THOMAS E. GREEN, SR. ....	<i>Marketing Specialist III</i>
NORWOOD O. HARGROVE .....	<i>Marketing Specialist IV</i>
GLEN C. HATCHER, SR. ....	<i>Marketing Specialist III</i>
ANN K. HICKS .....	<i>Stenographer II</i>
JAMES F. HOCKADAY, JR. ....	<i>Marketing Specialist IV</i>
JULIUS P. JENRETTE .....	<i>Marketing Specialist IV</i>
WALLACE G. JOHNSON .....	<i>Marketing Specialist IV</i>

ANNA C. JORDAN .....	<i>Stenographer II</i>
HENRY S. KENNETT .....	<i>Marketing Specialist II</i>
ETHEL Y. KIKER .....	<i>Marketing Specialist III</i>
KATHERINE B. KOPPEN .....	<i>Stenographer III</i>
WILLIAM E. LANE .....	<i>Marketing Specialist IV</i>
BRYANT C. LANGSTON, JR. ....	<i>Marketing Specialist III</i>
OPAL M. LILES .....	<i>Laboratory Technician II</i>
GLENN N. LILLEY, JR. ....	<i>Marketing Specialist III</i>
STALEY S. LONG, JR. ....	<i>Marketing Specialist III</i>
HUGH B. MARTIN .....	<i>Marketing Specialist IV</i>
ROGER L. MOZINGO .....	<i>Marketing Specialist III</i>
NEILL A. MORRISON, JR. ....	<i>Marketing Specialist IV</i>
HOBART W. MYRICK .....	<i>Marketing Specialist III</i>
MARY L. NORMAN .....	<i>Stenographer II</i>
LINDA S. NUNALEE .....	<i>Marketing Specialist III</i>
JOHN H. PARKER .....	<i>Marketing Specialist III</i>
NICHOLAS L. PAUL .....	<i>Marketing Specialist III</i>
ARVID T. PEAK .....	<i>Marketing Specialist III</i>
FRED J. PEPOON .....	<i>Federal—State Supervisor</i>
LOIS M. PLEASANTS .....	<i>Laboratory Technician III</i>
PATRICIA L. POOLE .....	<i>Stenographer II</i>
H. D. QUESENBERY .....	<i>Marketing Specialist IV</i>
B. S. RICH .....	<i>Marketing Specialist V</i>
ELLIS B. SHANDS .....	<i>Marketing Specialist III</i>
BEATRICE L. SMITH .....	<i>Stenographer III</i>
ELIZABETH L. TAYLOR .....	<i>Stenographer III</i>
LARRY E. TETTERTON .....	<i>Marketing Specialist IV</i>
CARL H. TOWER .....	<i>Marketing Specialist III</i>
EURIS R. VANDERFORD .....	<i>Marketing Specialist III</i>
DAVID S. WALKER .....	<i>Marketing Specialist III</i>
GRACE F. WATKINS .....	<i>Laboratory Technician II</i>
PAULINE M. WATKINS .....	<i>Typist II</i>
DANIEL E. WEBSTER .....	<i>Marketing Specialist III</i>
ANN E. WILDER .....	<i>Stenographer II</i>
WILLIAM A. WILDER, JR. ....	<i>Marketing Specialist V</i>
BARBARA J. WOOD .....	<i>Stenographer II</i>

## DAIRY

LEONARD F. BLANTON .....	<i>Dairy Service Director</i>
GARNIE E. ANDERSON .....	<i>Dairy Specialist II</i>
JOANNE W. BASS .....	<i>Stenographer II</i>
LAFALETTE H. BOYKIN, JR. ....	<i>Dairy Specialist II</i>
CHARLES W. DUNN .....	<i>Laboratory Helper</i>
PAUL R. JORDAN, JR. ....	<i>Analytical Chemist II</i>
JOHN R. MCGLAMERY .....	<i>Dairy Specialist II</i>
W. L. MCLEOD .....	<i>Dairy Specialist III</i>
PHILIP O. NICHOLS .....	<i>Dairy Specialist II</i>
ROBERT G. PARRISH .....	<i>Dairy Specialist II</i>
MARY R. SMITH .....	<i>Chemist I</i>
GILES M. WILLIAMS .....	<i>Dairy Specialist II</i>

## SEED TESTING

GEORGE E. SPAIN .....	<i>Seed Testing Director</i>
WILLIAM W. ALLEN .....	<i>Seed Specialist II</i>
JAMES M. S. BLOCKER .....	<i>Seed Specialist II</i>
MAGDALENE G. BRUMMITT .....	<i>Seed Laboratory Supervisor</i>
PATSY M. BUIE .....	<i>Seed Analyst I</i>
ROBERT C. BURRIS .....	<i>Seed Specialist II</i>



HENRY M. CALLIS .....	<i>Seed Specialist II</i>
BILLIE H. DARDEN .....	<i>Seed Analyst II</i>
VIRGINIA B. GRIFFIN .....	<i>Seed Analyst II</i>
THEODORA W. KING .....	<i>Seed Analyst II</i>
FRED L. MCHAN .....	<i>Seed Specialist II</i>
MURPHY G. MCKENZIE, JR. ....	<i>Seed Specialist II</i>
SANDRA C. POINDEXTER .....	<i>Stenographer II</i>
WILLIAM D. REYNOLDS .....	<i>Seed Specialist I</i>
JEWELL G. STALLINGS .....	<i>Seed Analyst II</i>
CORNELIA S. STRICKLAND .....	<i>Seed Analyst II</i>
VIRGINIA L. B. TEAL .....	<i>Seed Analyst II</i>
MILDRED W. THOMAS .....	<i>Seed Analyst II</i>

## ANALYTICAL

E. W. CONSTABLE .....	<i>State Chemist</i>
THERON ALEXANDER .....	<i>Chemical Analyst I</i>
HENRY O. AUSTIN .....	<i>Feed, Fertilizer &amp; Pesticide Inspector</i>
BETTY B. BALLANCE .....	<i>Stenographer II</i>
HENRY W. BARNES, JR. ....	<i>Analytical Chemist I</i>
ELIZABETH F. BARTHOLOMEW .....	<i>Analytical Chemist I</i>
STANLEY E. BERKSHIRE .....	<i>Food, Drug, &amp; Cosmetic Inspector</i>
CALVIN E. BRIM .....	<i>Laboratory Helper</i>
BURNEY A. BRITT .....	<i>Analytical Chemist I</i>
LINDA T. BROWN .....	<i>Stenographer II</i>
DAVID E. BUFFALOE .....	<i>Analytical Chemist I</i>
WILLIAM B. BUFFALOE .....	<i>Analytical Chemist II</i>
THOMAS E. CARRIKER, JR. ....	<i>Food, Drug, &amp; Cosmetic Inspector</i>
MARGARET B. CARTER .....	<i>Analytical Chemist I</i>
JAMES A. CHAPMAN .....	<i>Laboratory Helper</i>
BILLY D. CRAWFORD .....	<i>Chemical Analyst I</i>
DOROTHY M. DAVIS .....	<i>Stenographer III</i>
JERRY M. DISMUKES .....	<i>Analytical Chemist I</i>
OTIS M. EVANS .....	<i>Chemical Analyst I</i>
JOHN J. FILICKY .....	<i>Analytical Chemist I</i>
EVELYN A. FREEMAN .....	<i>Stenographer II</i>
ROBERT L. FREEMAN .....	<i>Food, Drug, &amp; Cosmetic Inspector</i>
JUDITH H. FULBRIGHT .....	<i>Typist II</i>
CHARLES H. GODWIN, JR. ....	<i>Food, Drug, &amp; Cosmetic Inspector</i>
PEARL G. GRAY .....	<i>Stenographer III</i>
WILLIAM M. HARRIS .....	<i>Analytical Chemist I</i>
SAMUEL H. HINTON .....	<i>Laboratory Helper</i>
VELVA E. HUDSON .....	<i>Typist III</i>
JESSE G. JERNIGAN .....	<i>Analytical Chemist I</i>
VERA C. JOHNSON .....	<i>Chemical Analyst I</i>
THOMAS W. LUCAS .....	<i>Laboratory Helper</i>
H. D. MATHESON .....	<i>Analytical Chemist II</i>
W. P. MATTHEWS .....	<i>Analytical Chemist I</i>
WILLIAM A. MORGAN .....	<i>Laboratory Helper</i>
FRED P. NOOE .....	<i>Food, Drug, &amp; Cosmetic Inspector</i>
H. F. PICKERING .....	<i>Analytical Chemist I</i>
CLYDE W. ROBERTS .....	<i>Food, Drugs, &amp; Cosmetic Inspector</i>
BETTIE L. SMITH .....	<i>Typist III</i>
WILBUR G. SPRINKLE .....	<i>Chemist Trainee</i>
WILLIAM SYLVER, JR. ....	<i>Laboratory Helper</i>
ROBERT T. TEAGUE, JR. ....	<i>Analytical Chemist III</i>
WILLIAM T. VICK .....	<i>Analytical Chemist I</i>
JAMES D. WATSON .....	<i>Analytical Chemist I</i>
GEORGE R. WINSTEAD, III .....	<i>Analytical Chemist I</i>
WILLIAM S. WORSHAM .....	<i>Chemical Analyst I</i>



## SOIL TESTING

PRESTON H. REID .....	<i>Soil Testing Director</i>
DOROTHY T. BECK .....	<i>Stenographer III</i>
SHIRLEY S. BOWLING .....	<i>Agricultural Chemist</i>
EVELYN S. CONYERS .....	<i>Chemist II</i>
CAROLYN O. COPELAND .....	<i>Analytical Chemist I</i>
ZOEL W. DAUGHTRY .....	<i>Agronomist I</i>
JOSEPH E. DOUGLAS .....	<i>Laboratory Helper</i>
LAURA S. GILLELAND .....	<i>Stenographer II</i>
ALBERT L. HATFIELD .....	<i>Agronomist I</i>
AUDREY H. HAYES .....	<i>Clerk II</i>
HERMAN L. HINTON .....	<i>Laboratory Helper</i>
CAROLYN C. HOLT .....	<i>Stenographer II</i>
YVONNE L. HUDSON .....	<i>Stenographer I</i>
SARAH P. JOHNSON .....	<i>Agricultural Chemist</i>
RUTH B. LEWIS .....	<i>Agricultural Chemist</i>
JUANITA U. MATTHEWS .....	<i>Agricultural Chemist</i>
KATHY D. STEPHENSON .....	<i>Typist I</i>
PEGGY J. SWINSON .....	<i>Stenographer II</i>
MARILYN C. WILLIAMS .....	<i>Typist I</i>
SUE P. WILLIAMS .....	<i>Agricultural Chemist</i>

## CROP STATISTICS

RAYMOND R. ALFORD, JR. ....	<i>Office Machine Operator, Supervisor G. IV</i>
MARY S. ALLEN .....	<i>Statistical Analyst I</i>
PHYLLIS L. BOYKIN .....	<i>Keypunch Operator II</i>
GEORGE T. BYNUM .....	<i>Statistical Aide</i>
CAROLYN R. COX .....	<i>Stenographer II</i>
CHARLIE H. CROSS, JR. ....	<i>Duplicating Equipment Operator III</i>
MARTHA F. EARLY .....	<i>Statistical Analyst II</i>
TERRY M. EDWARDS .....	<i>Duplicating Equipment Operator II</i>
EVELYN L. FINCH .....	<i>Vari-Type Operator II</i>
WILLIAM B. HARRIS .....	<i>Farm Census Supervisor</i>
KATHRYN H. HICKS .....	<i>Keypunch Operator II</i>
JEWELL B. HUSSEY .....	<i>Statistical Aide</i>
IDA L. KING .....	<i>Statistical Aide</i>
MINNIE H. LANGLEY .....	<i>Vari-Type Operator II</i>
WAYNE S. LEARY .....	<i>Statistical Analyst II</i>
FLORENCE C. LEONARD .....	<i>Statistical Aide</i>
CARRIE MAE MANN .....	<i>Statistical Aide</i>
MARY D. MATTHEWS .....	<i>Statistical Analyst I</i>
CARL A. OUZTS .....	<i>Statistician (Agriculture) GS 12</i>
ANNE L. RIKER .....	<i>Keypunch Operator II</i>
NATALIE R. SHEARIN .....	<i>Statistical Aide</i>
OLAF WAKEFIELD .....	<i>Supervisor Analytical (Statistical) GS 13</i>

## VETERINARY

THOMAS F. ZWEIGART, JR. ....	<i>State Veterinarian</i>
JOSEPHINE A. ALLEN .....	<i>Stenographer III</i>
GREY P. BAKER .....	<i>Medical Laboratory Technician II</i>
JOHN DEAN BAKER .....	<i>Veterinarian I</i>
JOHNNIE W. BARNES .....	<i>Laboratory Helper</i>
MARVIN A. BATCHELOR .....	<i>Livestock Inspector</i>
GARY C. BAUCOM .....	<i>Poultry Specialist I</i>
CHARLES R. BORDER .....	<i>Veterinarian I</i>

LOREN BUCHANAN, JR.	Veterinarian I
ALLIE W. CARTER	Livestock Inspector
JULIUS B. CASHION	Poultry Specialist I
IVEY P. C. CASHWELL	Medical Laboratory Technician II
JESSE J. CAUSBY	Poultry Specialist II
EDWIN R. CHURCH	Poultry Specialist I
KENNETH G. CHURCH	Poultry Specialist I
JAMES H. CLEGG	Poultry Specialist I
WILLIAM W. CLEMENTS	Veterinarian I
WILLIAM F. COATS	Veterinary Trainee
ALTON L. CORBETT	Livestock Inspector
EUGENE C. COUCH	Poultry Specialist I
NANCY F. COUEY	Stenographer II
MICHAEL L. COUSINS	Laboratory Helper
THOMAS E. CRUMPLER	Livestock Inspector
LILLY F. DAUGHTRY	Stenographer II
LYNDA K. DEAN	Medical Laboratory Technician I
GUY E. DOWD	Poultry Specialist I
DEWEY M. EDWARDS	Livestock Inspector
L. J. FOURIE	Poultry Inspection Supervisor
JAMES A. FRAZIER	Poultry Specialist II
GEORGE D. FULLER	Livestock Inspector
WILLIAM B. GRIFFIN	Veterinarian I
JULIAN E. GUYTON	Poultry Specialist I
RALPH HAMILTON	Veterinarian I
OSCAR F. HILL	Livestock Inspector
GEORGE HINTON	Clerk I
GEORGE L. HUNNICUTT	Veterinarian I
GENEVA C. HUNT	Stenographer III
EDWARD L. JOHNSON	Laboratory Helper
HUBERT F. JORDAN	Laboratory Helper
JAMES L. KEARNEY	Laboratory Helper
KENNETH G. KEENUM	Veterinarian I
WILLIAM W. KEEVER	Livestock Inspector
JAMES D. KELLY	Poultry Specialist I
JIMMY D. KELLY	Poultry Specialist I
IRENE K. KILPATRICK	Medical Laboratory Technician II
MARY L. KINSAUL	Medical Laboratory Technician II
BETTY R. LILES	Medical Laboratory Technician II
EUNICE G. LIPHAM	Medical Laboratory Technician II
FRED D. LONG	Poultry Specialist I
THOMAS B. LOVE	Poultry Specialist I
DOUGLAS H. MCFATTER	Poultry Specialist I
PAUL C. MARLEY	Poultry Specialist I
OREN D. MASSEY, JR.	Poultry Specialist I
BRENDA C. MCALLISTER	Stenographer II
GARY M. MEDLIN	Poultry Specialist I
JAMES R. MILLER	Veterinarian II
OSCAR L. MOORING	Poultry Specialist I
THEODORE M. MULLMANN	Veterinarian I
DAVID A. MUNRO	Veterinarian I
CORRINE K. MURRAY	Medical Laboratory Technician I
NADINE R. NESBIT	Medical Laboratory Technician II
DOROTHY C. PATE	Medical Laboratory Technician II
WALTER G. PEARSON	Veterinarian I
PETER S. PENLAND	Poultry Specialist I
HERBERT P. PERRY	Poultry Specialist I
OLLIE C. PICKRAL	Livestock Inspector
CLIFFORD W. PITTMAN	Veterinarian I
LARUE T. POLLARD	Medical Laboratory Technician III
HUGH M. POWELL	Veterinarian I
OTHELL H. PRICE	Stenographer II



JAMES R. REEDY, JR.	Medical Laboratory Technician I
LOLA S. REINCKENS	Stenographer II
NED M. ROSS	Veterinarian I
ROWLAND W. RUSHMORE	Veterinarian I
TERRELL B. RYAN	Veterinary Laboratories Director
PHIL R. SANDIDGE	Poultry Specialist I
SUDHIR P. SAHU	Veterinary Specialist
JOSEPH A. SCHMITZ	Veterinarian I
CAROLE L. SEHEULT	Medical Laboratory Technician I
GEORGE W. SIMPSON	Poultry Specialist II
CAROL V. SMITH	Medical Laboratory Technician III
DIXIE D. SOUTHARD	Poultry Specialist I
IDA C. STARLING	Medical Laboratory Technician II
JULIAN S. STARR	Veterinarian I
THOMAS E. STATON	Veterinarian II
EVELYN C. TRIBBLE	Medical Laboratory Technician II
MARY G. VAN HORN	Medical Laboratory Technician II
KENNETH C. WILKINS	Medical Laboratory Assistant
THERON S. WILLIAMS	Assistant State Veterinarian
WILLIAM R. WILSON, JR.	Veterinarian I
JOHN R. WOODY	Poultry Specialist I

## RESEARCH STATIONS

CECIL D. THOMAS	Agricultural Research Stations Director
ELWOOD A. ALLEN	Maintenance Mechanic I
GRAHAM E. ALLEN	Farm Hand
EDWARD R. ASKEW	Agricultural Research Assistant III
ENNETT K. ATWOOD	Agricultural Research Assistant III
BILLY N. AYSUE	Farm Superintendent II
WARREN H. BAILEY	Farm Superintendent III
WALLACE R. BAKER, JR.	Farm Superintendent II
FREELAN L. BARE	Farm Hand
ROBERT L. BATTS	Farm Worker
ELTON BAZEMORE	Farm Worker
LINWOOD BAZEMORE, JR.	Farm Worker
GEORGE D. BETTS	Farm Worker
PERCY L. BRASWELL	Farm Hand
GENE BRITT	Agricultural Research Assistant IV
WILLIAM K. BROCK	Farm Foreman II
BURNEY C. BULLARD	Farm Hand
THEODORE R. BURLESON, JR.	Farm Foreman II
JOSEPH B. CHERRY	Farm Worker
AUBREY CHESSON	Farm Hand
SAMUEL J. CHILDS	Agricultural Research Supervisor II
FRANCES T. COCHRAN	Stenographer II
ROGER E. COLLINS	Agricultural Research Supervisor II
JAMES W. COMSTOCK	Farm Worker
GEORGE E. COWAN	Farm Worker
GWENDOLYN K. COX	Typist II
RUFUS CURTIS	Livestock Man
BERNARD R. DANIEL	Maintenance Mechanic I
JERRY P. DAVIS	Farm Worker
WINSTON W. DAVIS	Farm Worker (Dairy)
WALLACE J. DICKENS	Farm Superintendent II
LON D. DUGGER	Agricultural Research Assistant I
RUSSELL DUGGER	Farm Worker
RUSSELL G. DUGGER	Farm Worker
WILLIAM J. DUGGER	Farm Worker

JAMES R. EDWARDS	<i>Farm Superintendent III</i>
ERNEST W. ENGLISH	<i>Farm Foreman II</i>
ROGER D. EVANS	<i>Farm Worker</i>
JAMES J. FLETCHER	<i>Farm Worker</i>
JAMES W. GEORGE	<i>Farm Worker</i>
BILLY J. GREENE	<i>Farm Worker</i>
THOMAS E. HARPER	<i>Farm Worker</i>
BERNICE H. HARRELL	<i>Stenographer II</i>
GARFIELD HARRIS	<i>Farm Foreman II</i>
BILLY G. HAWKINS	<i>Agricultural Research Assistant II</i>
HIRAM HAWKINS	<i>Farm Hand</i>
ALICE J. HONEYCUTT	<i>Stenographer III</i>
MOSES JR. HORNES	<i>Farm Hand</i>
HORACE G. HUDSON	<i>General Utility Man</i>
LEROY JONES	<i>Farm Hand</i>
RICHARD O. JONES	<i>Farm Worker</i>
PATON H. KELLEY	<i>Administrative Officer II</i>
MERLE R. KING	<i>Agricultural Research Supervisor II</i>
RUTH O. LANE	<i>Typist I</i>
WINSTON LEE, JR.	<i>Farm Worker</i>
ANNE Y. LENTZ	<i>Stenographer II</i>
ROBERT A. LEWIS	<i>Farm Foreman II</i>
CHARLES H. LUTON	<i>Farm Foreman II</i>
WILLIE L. MCCADEN	<i>Farm Hand</i>
WILSON C. MCCADEN	<i>Farm Worker</i>
HAYES L. MCCLURE	<i>Farm Worker II</i>
WALKER W. MCNEILL	<i>Agricultural Research Supervisor II</i>
CLYDE Z. MCSWAIN, JR.	<i>Farm Superintendent III</i>
JACOB B. MATTHEWS	<i>Livestock Man</i>
PAUL D. MATTHEWS	<i>Farm Worker</i>
JESSIE W. MORRIS	<i>Farm Worker</i>
LONNIE MOSBY, JR.	<i>Agricultural Research Assistant I</i>
LENA MAE NEAVES	<i>Stenographer I</i>
MELVIN L. OLIVER	<i>Farm Worker</i>
JAMES M. PEACE	<i>Farm Hand</i>
THOMAS E. PERRY	<i>Farm Foreman II</i>
GEORGE H. POWERS	<i>Farm Hand</i>
BEN D. RACKLEY	<i>Farm Worker</i>
CHARLES G. REAGAN	<i>Livestock Man</i>
OLIVER RICE	<i>Livestock Man</i>
LEROY RICH	<i>Farm Worker</i>
THEODORE R. RICH	<i>Farm Worker</i>
ACIE C. RIVENBARK	<i>Farm Hand</i>
ALVIN W. RIVENBARK	<i>Livestock Man</i>
CHARLES W. ROSCOE	<i>Farm Hand</i>
JOHN D. ROTEN	<i>Agricultural Research Assistant I</i>
CLAUDE S. ROUPE	<i>Farm Worker</i>
JOHN SASSER, JR.	<i>Farm Foreman II</i>
GEORGE SEVERT	<i>Farm Worker</i>
JULIA L. SKINNER	<i>Typist I</i>
HOMER G. SMITH	<i>Livestock Man</i>
JOHN W. SMITH	<i>Farm Superintendent II</i>
JEAN W. SPRUILL	<i>Stenographer I</i>
THILBERT A. SUGGS	<i>Agricultural Research Assistant IV</i>
JESSIE W. SUMNER	<i>Farm Superintendent II</i>
HENRY M. TALLARDY	<i>Clerk III</i>
DAN L. TAYLOR	<i>Agricultural Research Assistant III</i>
JAMES C. TAYLOR	<i>Farm Foreman II</i>
JOHN H. THOMAS	<i>General Utility Man</i>
LEVY C. TODD	<i>Farm Worker</i>



DANA F. TUGMAN .....	<i>Farm Superintendent II</i>
EARL E. VICKERY .....	<i>Farm Worker</i>
JOHNNIE K. WARD .....	<i>Farm Hand</i>
WALLACE M. WEST .....	<i>Farm Worker</i>
RANDOLPH WHITLEY .....	<i>Agricultural Research Assistant III</i>
JAMES H. WILLIAMS .....	<i>Farm Hand</i>
B. L. WILLIAMS .....	<i>Stenographer II</i>
THOMAS R. YARSKI .....	<i>Farm Hand</i>

## MUSEUM OF NATURAL HISTORY

WILLIAM L. HAMNETT .....	<i>Museum of Natural Science Director</i>
LUDIE V. ASHE .....	<i>Maid</i>
HEZEKIAH GOODSON .....	<i>Janitor</i>
GRACE R. JOHN .....	<i>Stenographer II</i>
CHARLES H. LEIBRANDT .....	<i>Taxidermist</i>
WILLIAM M. PALMER .....	<i>Natural Science Museum Curator I</i>
SARA DEAN PRINCE .....	<i>Clerk II</i>
ROBERT A. TALLEY .....	<i>Messenger</i>
EUGENE T. UPCHURCH .....	<i>Natural Science Museum Curator II</i>
JAMES F. VESTER .....	<i>Cabinetmaker</i>
MARY M. WEATHERS .....	<i>Stenographer I</i>
CAROLYN H. WYLAND .....	<i>Natural Science Museum Curator Trainee</i>

## FOOD DISTRIBUTION

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SAMUEL T. AVERA .....	<i>Commodity Distribution Representative</i>
RAYMOND M. CHADWICK .....	<i>Stock Clerk II</i>
RALEIGH T. DANIEL .....	<i>Commodity Distribution Assistant Director</i>
GLADYS R. DUDLEY .....	<i>Stenographer III</i>
ROBERT B. DUNN .....	<i>Commodity Distribution Representative</i>
ROBERT B. GODWIN .....	<i>Commodity Distribution Representative</i>
DAVID S. GRIFFIN .....	<i>Commodity Distribution Representative</i>
CATHERINE S. HOLDEN .....	<i>Typist II</i>
DOROTHY C. HILL .....	<i>Accounting Clerk II</i>
DON M. HONEYCUTT .....	<i>Stock Clerk II</i>
JAMES M. HUNTER, JR. ....	<i>Warehouse Manager I</i>
BARBARA F. KING .....	<i>Stenographer II</i>
BETTY J. LINDLEY .....	<i>Accounting Clerk II</i>
CECIL L. MORRIS .....	<i>Warehouse Manager I</i>
NELLIE M. SANDERS .....	<i>Accounting Clerk I</i>
WALTER M. SAWYER .....	<i>Administrative Officer I</i>

## GASOLINE AND OIL INSPECTION

JOHN I. MOORE .....	<i>Director, Weights &amp; Measures, Gasolina &amp; Oil Inspection</i>
CAREY M. ASHLEY .....	<i>Agricultural Chemist</i>
MILTON BAREFOOT .....	<i>Gasoline &amp; Oil Inspector</i>
LAURA H. BRYANT .....	<i>Stenographer II</i>
CAROLYN F. BUNN .....	<i>Stenographer II</i>
JUDITH H. CARD .....	<i>Stenographer I</i>
ROBERT F. COMER .....	<i>Liquified Gasoline Inspector</i>
JACK C. CONNOLLY, II .....	<i>Agricultural Chemist</i>
MILTON CONVERSE .....	<i>Liquified Gasoline Engineer</i>
MARSHALL D. COX .....	<i>Agricultural Chemist</i>

JOSEPH DENTON	<i>Gasoline &amp; Oil Inspector</i>
PAUL H. ETHERIDGE	<i>Agricultural Chemist</i>
ALICEGRAE F. FERRELL	<i>Accounting Clerk III</i>
JEAN S. GARY	<i>Agricultural Chemist</i>
ROY B. HALLMAN	<i>Gasoline &amp; Oil Inspector</i>
ELLIOT HARRISON	<i>Laboratory Helper</i>
JOSEPH M. HARRELL	<i>Agricultural Chemist</i>
HUGH F. HAYES	<i>Chemist II</i>
THOMAS R. HAYES	<i>Gasoline &amp; Oil Inspector</i>
HARACE E. HERMAN	<i>Liquified Gasoline Inspector</i>
CONNIE B. HINES, SR.	<i>Weights &amp; Measures Inspector</i>
IRA G. HOLLOWAY	<i>Gasoline &amp; Oil Inspector</i>
ARTHUR B. HUTCHINS	<i>Gasoline &amp; Oil Inspector</i>
EDWIN H. HUTCHINS	<i>Chemist II</i>
HERMAN L. JONES	<i>Gasoline &amp; Oil Inspector</i>
HAROLD U. KINDER	<i>Gasoline &amp; Oil Inspector</i>
CURTIS R. LINDSAY	<i>Gasoline &amp; Oil Inspector</i>
T. PAUL LOPP	<i>Gasoline &amp; Oil Inspector</i>
ROBERT H. MCCARVER	<i>Gasoline &amp; Oil Inspector</i>
JOHN L. McLAUGHLIN	<i>Agricultural Chemist</i>
ROBERT E. MULLEN	<i>Agricultural Chemist</i>
W. T. O'BRIANT	<i>Gasoline &amp; Oil Inspector</i>
THOMAS F. ODER	<i>Gasoline &amp; Oil Inspector</i>
DEAN E. PADGETT	<i>Weights &amp; Measures Inspector</i>
DOUGLAS M. PAIT	<i>Gasoline &amp; Oil Inspector</i>
MARIE W. PERRY	<i>Agricultural Chemist</i>
KERMIT S. PRICE	<i>Agricultural Chemist</i>
EDSEL H. PRIVETTE	<i>Weight &amp; Measures Inspector</i>
PARLEY B. RASMUSSEN, JR.	<i>Agricultural Chemist</i>
CLYDE W. REEVES	<i>Gasoline &amp; Oil Inspector</i>
JAMES R. RIVERS	<i>Gasoline &amp; Oil Inspector</i>
JOSEPH C. ROEBUCK	<i>Gasoline &amp; Oil Inspector</i>
FRANK L. ROUSE	<i>Weights &amp; Measures Inspector</i>
DANIEL W. RUDY, JR.	<i>Agricultural Chemist</i>
DAVID W. SANDERS	<i>Gasoline &amp; Oil Inspector</i>
ADAM D. SCOTT	<i>Agricultural Chemist</i>
H. L. SHANKLE	<i>Analytical Chemist II</i>
J. T. SHAW	<i>Chemist II</i>
HARRY W. SHELTON	<i>Agricultural Chemist</i>
RAY D. SIGMON	<i>Gasoline &amp; Oil Inspector</i>
CLARENCE D. SIMPSON	<i>Gasoline &amp; Oil Inspector</i>
KOY S. SMITH	<i>Gasoline &amp; Oil Inspector</i>
ROBERT M. SMITH	<i>Gasoline &amp; Oil Inspector</i>
DAVID B. SPIVEY	<i>Weights &amp; Measures Inspector</i>
ALTON P. STOCKS	<i>Liquified Gasoline Inspector</i>
RALPH G. THORNBURG	<i>Agricultural Chemist</i>
JAMES E. TURPIN	<i>Gasoline &amp; Oil Inspector</i>
EARL E. VAUGHN	<i>Gasoline &amp; Oil Inspector</i>
WILLIAM D. VICK	<i>Agricultural Chemist</i>
WORTH E. WILLIAMS	<i>Gasoline &amp; Oil Inspector</i>
GORDON S. YOUNG	<i>Weights &amp; Measures Inspector</i>

## STATE WAREHOUSE FUND

WILLIAM G. PARHAM, JR.	<i>Warehouse System Superintendent</i>
NANCY A. BLINSON	<i>Stenographer II</i>
FRANCES L. O'NEAL	<i>Stenographer III</i>
NORMAN M. SEAGROVES	<i>Warehouse Examiner</i>

## COOPERATIVE INSPECTION SERVICE

BOBBY G. BYRD .....	<i>Marketing Specialist I</i>
JAMES M. CLARK .....	<i>Marketing Specialist II</i>
EDWARD L. COLEMAN .....	<i>Marketing Specialist I</i>
LARRY S. DEAL .....	<i>Marketing Specialist II</i>
GROVER H. DEAN .....	<i>Marketing Specialist I</i>
BILLIE A. FULLER .....	<i>Stenographer III</i>
HELEN J. PARRISH .....	<i>Accounting Clerk II</i>
KENNETH L. PERRY .....	<i>Marketing Specialist II</i>
ELDRIDGE C. PRICE .....	<i>Marketing Specialist IV</i>
SAMUEL G. RAND .....	<i>Marketing Specialist II</i>

## STRUCTURAL PEST CONTROL

RUDOLPH E. HOWELL .....	<i>Pest Control Director</i>
TYRONE S. BULLARD .....	<i>Pest Control Inspector</i>
NORMAN R. HOWELL .....	<i>Pest Control Inspector Supervisor</i>
SANDRA C. JOHNSON .....	<i>Stenographer II</i>
KENNETH LEE .....	<i>Pest Control Inspector</i>
JIMMY D. RAYNOR .....	<i>Pest Control Inspector</i>
BILLY R. WEST .....	<i>Pest Control Inspector</i>

## CREDIT UNION SUPERVISION

W. V. DIDAWICK .....	<i>Credit Union Administrator</i>
SHIRLEY T. COATS .....	<i>Stenographer II</i>
EDGAR L. GRIER, JR. ....	<i>Fiscal Examiner III</i>
JOSEPH M. JONES .....	<i>Fiscal Examiner III</i>
LARRY G. NORRIS .....	<i>Fiscal Examiner II</i>
HOWARD L. PIJAHN .....	<i>Fiscal Examiner III</i>
WILLIAM B. STOVALL .....	<i>Fiscal Examiner II</i>
EDWIN C. SWARTZ .....	<i>Fiscal Examiner II</i>
RICHARD B. TELFAIR, JR. ....	<i>Fiscal Examiner III</i>

## OPERATION OF FARMERS MARKET

CHARLES G. MURRAY .....	<i>Manager</i>
GAIL S. PARTIN .....	<i>Stenographer III</i>



# BIENNIAL REPORT

## OF THE

### NORTH CAROLINA DEPARTMENT OF AGRICULTURE

By JAMES A. GRAHAM  
*Commissioner of Agriculture*

Each biennium brings new responsibilities, new problems, new challenges and new opportunities, as well as many accomplishments and goals achieved. For the North Carolina Department of Agriculture, there has been a multiplicity of all of these.

Perhaps the greatest problem, categorically speaking, has been that of trying to meet increasing demands without comparable increase in financial, physical or human resources. While the work of each of the 19 divisions of the department is very diverse, there is a definite link between them; and most of the problems encountered are common to all divisions at least in nature.

The many consumer protection programs which are carried on in the department have been continuing for years. However, during this biennium there has been increased demands on these particular services for two reasons. One is the sharply increased technologies and sciences involved in the production of most consumer products today. The other has been considerably more activity and agitation on the part of consumers, much of which is due to the fact that consumers in this state have not previously been organized and have not generally made themselves sufficiently aware of the services provided for them, although the information has been repeatedly publicized. Nevertheless, there are currently unmet needs, or only partially met needs, in this area of our work which must be emphasized in this report.

One of the greatest needs currently is for an analytical services laboratory, building, equipment, and staff to carry on not only the consumer protection laboratory work now being done but to expand this work and add new lines of work to it. Administration of the Food, Drug and Cosmetic Act alone demands more and increasingly complex laboratory procedures. Also analyses and testing which had their origin in farmers' needs now have in addition consumer protection aspects which place an increasing burden on the laboratories now operated.



It should be pointed out, too, that even in such areas of work as our veterinary diagnostic laboratories perform, the consumer has an important stake. Farmers have so much invested in their operations, and their profit margins are so narrow, that they must have laboratory test results and have them quickly if our state is to continue to expand in livestock and poultry production, as well as other areas of agricultural production. This is essential for our consumers to get better and cheaper products than if our farmers were forced out of business and more and more of these commodities had to be imported from other states.

Research has provided farmers with many important tools for more efficient operation and means for reducing their production costs. However, a farmer cannot intelligently use these tools without many kinds of laboratory service testing to provide him with information as to the conditions on his individual farm or even an individual field. For example, a farmer needs to know that the food or forage he buys has not been sprayed with some pesticide that will show up in the form of residues in the meat or milk which would ban the sale of his production, sometimes for many months.

Similarly, to help reduce his production costs and fully utilize his physical resources, a livestock or poultry producer needs to grow some of his own feed on his own land. However, this must be supplemented with commercially produced feed concentrates; and unless a farmer can obtain tests to inform him as to the nutritive value of the feed and forage he has produced, he does not know how much or how little of the feed concentrates he must buy to supplement what he produces in order to get the maximum feed conversion at the lowest possible cost. All of these matters affect consumer prices in the market place.

Likewise, a farmer needs to know if he has nematodes in his soil and what particular kind of nematodes they are so that he can know whether he must spend money to fumigate to produce a particular crop, or run the risk of a crop failure.

The department had in its budget request for the 1967-69 biennium funds for building, equipping and staffing, this kind of analytical services laboratory. Unfortunately, the money was not appropriated and during the past two years the needs have become even more acutely urgent. The request is again being made of the 1969 legislature, and it cannot be too strongly emphasized that this is a matter of extreme importance and of urgent necessity to every citizen of North Carolina.

## PROBLEMS AND ACCOMPLISHMENTS

It is not my intention in this section of the report to list all of the problems and accomplishments which have taken place during the past biennium. Details of these are covered in the individual division reports which follow. However, it is advisable to list here some of these which afford good illustrations, particularly at the administration level.

**Tobacco**

Tobacco, the backbone of this state's agricultural and overall economy, has had problems which came to a head all at once during this biennium.

An important step toward solving the problems was made when growers voted to adopt the acreage-poundage quota system first put into effect in 1965. A result of this was reduction in stocks to more reasonable amounts. However, not all of the needed improvements could be put into the effect in one season. The vote on the acreage-poundage quotas came late in the season and as a result some farmers were not able to adjust their production to this immediately.

In that 1965-66 season, North Carolina growers undermarketed their quotas by a net total of more than 56 million pounds and in 1966-67 by almost 43 million pounds. But in the 1967-68 season, they sold their undermarketings from the two previous seasons and 32 million pounds in excess of their current quotas.

Meantime, growers continued to feel the pinch of rising production costs, and labor costs in particular. Limited loose-leaf sales were first extended to the Carolinas and Virginia in 1962. Our growers found it paid to sell untied tobacco, even with a small price differential, as this was more than offset by labor costs for preparing tied leaf for the market. They clamored for the privilege of selling untied leaf throughout the marketing season.

Last year the Secretary of Agriculture extended the loose-leaf selling time to the first 95 hours of selling time. This action, together with a bumper crop and under-marketing from previous years, caused growers to rush to market with more untied leaf. Also many growers feel that the earlier they market the better the price they get and, in addition, many are in need of ready cash as soon as possible after harvesting begins.



As a result of these and other factors, the 1967-68 marketing season has been consistently described as "congested" or "chaotic."

Re-drying facilities were insufficient to handle the large quantities brought to market in the early selling days. Selling time was also insufficient, and growers' trucks were backed up for blocks around the warehouses, with some producers having to stay with their trucks as long as three or four days.

Buyers found it difficult to handle tobacco that was not pre-sheeted and insisted that such a system be in effect for the 1967-68 season. They also complained that the 200-pound basket maximum resulted in co-mingling of grades by warehousemen to bring their baskets up to full weight in order to sell as many pounds as possible in the allotted time.

So disturbed and upset was every segment of the tobacco industry from the grower to the tobacco processors that during the winter of 1967-68 I invited Commissioners of Agriculture from all of the flue-cured states to meet with me and also to participate in meetings with the various segments of the tobacco industry to try to work out recommendations for the benefit of all concerned.

At our final meeting on January 16 the Commissioners drew up and approved a number of recommendations as follows:

"1. Every effort should be made to continue the present Flue Cured Marketing Committee with representation from growers, warehousemen and buying companies.

"2. This Marketing Committee is hereby requested to develop a marketing plan for the flue cured tobacco for 1968 for consideration by the various segments of the industry.

"3. In this marketing plan we recommend:

"— That the allocation of warehouse sales be on a poundage-basket basis at 76,000 pounds per hour of allotted selling time, per set of buyers with a maximum of 500 baskets per hour, and a maximum of 200 pounds per basket, in order to eliminate the mixing and co-mingling of tobacco at the warehouse.

"— That the flow of tobacco through the auction system be regulated at the capacity of the industry to properly move and process it. Provision should be made for adjustments in this rate of flow as needed during the marketing season.

"— That a rigid system of administering the poundage allotted to warehouses be implemented.



“— That a reasonable plan of pre-sheeting be implemented for the 1968 marketing season.

“— That markets be provided in the several belts when the crop is ready to market—thus increasing the incentive for growers to sell their tobacco in the belt where it is grown.

“— That a performance system be implemented in each belt to increase the freedom for growers to choose between markets and warehouses within the same belt.

“4. It is generally felt that a Federal Marketing Order to regulate the flue cured market should be considered only after all other possible avenues have been explored.

“In addition to the above recommendations, it is further recommended that:

“(1) The Department of Agriculture in the several flue cured producing states strictly enforce present weight tolerances and strive toward more uniformity in these tolerances between states.

“(2) The warehouse industry improve the lighting and sanitation conditions in warehouses and in some instances improve facilities for loading tobacco out of warehouses.

“(3) Warehousemen and growers follow a voluntary booking system for 1968 that will afford a fair and equitable distribution of warehouse sales time to growers.”

Meantime, a number of public hearings on a proposal to place tobacco under a federal marketing order were held throughout the flue-cured area. There was so much controversy, and considerable opposition to the marketing order that Secretary Freeman decided to defer acting on this until after the 1968-69 marketing season. He did, however, extend the sale of untied tobacco throughout the entire 1968-69 marketing season.

As a result of the recommendations coming out of the series of meetings of Commissioners, the following improvements have been initiated for the 1968-69 season.

1. A pre-sheeting system to improve the handling of loose-leaf tobacco, with approval for using the same system for handling tied tobacco.

2. Allotment of selling time to warehouses on a poundage-basket basis. Sales will be based on 76,000 pounds per set of buyers, with a limit per hour of 500 baskets not weighing over 200 pounds each. This will permit an average basket weight of 152 pounds and still enable warehousemen to sell their quota. Consequently it should eliminate the co-mingling of grades to

build up pounds per basket to the 200 pound weight.

3. The use by most warehousemen of a voluntary booking system. Impartially administered, this system will permit warehousemen to tell growers when they can put their tobacco on the warehouse floor and not force them to wait long, weary hours in line as they had to do last year.

4. The expansion of processing and storage facilities. This together with the fact that the flue-cured quotas are less this year than last, should further reduce market congestion.

5. For the first time in history the Florida, Georgia and Border Belt markets opened simultaneously, eliminating long hauls to get tobacco on the earliest possible market.

As this report is written, the 1968 flue-cured marketing season has been open for more than a week and many improvements are noted. The marketing seems to be proceeding smoothly. It is possible there will be some congestion later on in the season. It is too much to expect that every problem can be solved in one marketing season. But, in my opinion, so many major improvements have been made this year that these will serve as a firm foundation on which to build permanently a smooth marketing operation.

Meantime some of the problems involved are for the need for a better packaging method for the loose-leaf tobacco and our tobacco marketing specialists are working with other agencies and other states in experimentation to find a way for handling the untied leaf which will be practicable for the grower and convenient for buyers.

### **Plant Pests**

Among the problems which have plagued us during the past two years have been two crop pests which posed serious threats to important agricultural industries in the state. One of these, Peanut Stunt Virus, has resulted in an embargo on our seed peanuts in states to the south of us and the department has been engaged in survey work to determine the extent of acreage infested with the virus and to work with the research agencies in attempting to find measures for overcoming this problem.

The second pest, which appeared for the first time in the state in 1967, was the Sweet Potato Weevil. Immediately regulatory measures and quarantines were put into effect which are result-



ing in the eradication of this pest and it is hoped that quarantines can be lifted in all areas of the state by the end of the 1968 season.

### **Dairy Industry**

The dairy processing industry has been moving more towards processing a variety of articles other than milk in an attempt to overcome some of the competition they are experiencing from synthetic dairy products and similar foods. Repeatedly, the Board of Agriculture has been requested by the dairy industry to adopt definitions for new products which they would be permitted to process, or to revise existing regulations.

There has also been some confusion and resentment because so many of the states surrounding us and even many counties in North Carolina have adopted the U. S. Public Health Milk Ordinance and Code. In an attempt to get the North Carolina dairy regulations as nearly as possible uniform with those in surrounding areas, and at the same time retain maximum benefit to both producers and processors in this State, I appointed a dairy regulations study committee to review all the department's regulations relating to that industry.

To that committee I appointed representatives of all segments of the dairy industry, as well as control officials in this department and members of the food industries department of the North Carolina State University. This committee has had a number of meetings and the head of our dairy division has, at their request, made an extensive survey of requirements of other states and the Federal Government. The committee has completed a major portion of its work and its recommendations will probably be advertised for a public hearing before the Board of Agriculture sometime during the coming winter.

### **Hog Cholera**

As we have progressed in our hog cholera eradication program, it seemed advisable to appoint a special committee to work with our state veterinarian in implementing the early eradication of this costly disease. In the fall of 1966, I appointed a special Hog Cholera Advisory Control and Eradication Regulatory Committee made up of representatives of pork producers,



extension veterinarians, the Pork Producers Association, purebred swine producers, state Supervisor of Agricultural Education, two veterinarians in private practice, the president of the North Carolina Meat Packers Association, and a representative of the public livestock markets, among others. This committee has worked very effectively in advising and assisting in the program and the eradication program has now moved into Phase III. The year 1972 is the target date for complete eradication of this disease in North Carolina.

### **Marketing**

In my report to the Legislature for the 1964-66 biennium, I stated that a major characteristic of the department's work in that two-year period was "accent on marketing." Certainly this accent or emphasis on marketing has not only continued but has been accelerated during the biennium currently under review. Reorganization of the Markets Division, which was under way at the time of my last report, has been completed and is permitting more effective work toward finding new and expanded markets for our North Carolina agricultural products as well as for the North Carolina processed products from raw materials produced on our farms.

In the spring of 1966, I initiated an award for outstanding service to the North Carolina Produce Industry. This award is given annually at the meeting of the North Carolina branch of the United Fresh Fruit and Vegetable Association to the firm which has done the most to highlight the fresh fruit and vegetable industry in this state. This competition has already stimulated interest among the state's produce dealers in promoting our own state products, and it is my belief that it will have even greater impact in the near future.

In the spring of 1968, the North Carolina Department of Agriculture participated in the American Festival in Tokyo, Japan. The exhibit which was shipped to Tokyo, included tobacco, soybeans, sweetpotato flakes, country ham, chickens, and turkeys; all products in which Japanese buyers had expressed a particular interest. The invitation from the Foreign Agricultural Service to sponsor an exhibit there was the result of much hard work on the part of the Commissioner, Assistant Commissioner and our Markets Division personnel and was made possible by funds pro-

vided by Governor Moore and the Council of State.

During the exhibition itself, North Carolina commodities totaling more than three-quarters of a million dollars were actually ordered or contracted for. This is merely the beginning of our trade expansion in Japan as a result of our exhibit and the samples of our foods which were given to visitors at the festival. For example, work on behalf of the National Turkey Federation which had been continuing for some time, and the samples of turkeys which were given out at the Festival, have combined to sharply increase the popularity of this item in Japan. Currently it is reported that turkey is becoming as much a tradition for wedding feasts in Japan as it is for our Thanksgiving and Christmas dinners in the United States.

In the late summer of 1967, the department purchased a 30-foot mobile exhibit trailer for use by the Markets Division promotion section and agricultural commodity groups to exhibit and promote North Carolina grown and processed foods. During the first season from September of 1967 until the spring of the following year, this trailer had been visited by approximately 125,000 people. During the current season, beginning with Food Products Month in July and continuing through the fair season, it is expected that fully twice that many people will be visiting and seeing all the varieties of products which are available in North Carolina. Meantime in the spring of 1968, the interior of the trailer was remodeled and segmented for easier and more meaningful viewing on the part of visitors.

At the end of the biennium, a kitchen in the Department of Agriculture building was nearing completion for use by our two home economists in testing and creating recipes using North Carolina grown products, and also for preparing foods which these home economists use in frequent television shows. The kitchen was made possible by donations of equipment from the three electric power companies in this area.

Other activities in the area of promotion include participation on the part of both our promotions and publicity staff in such events as North Carolina Broiler Month, North Carolina Food Products Month, the annual North Carolina Blueberry Festival; and we in the department have continued to be active in participation and promotion of the Governor's annual retail food award to the chains and independent grocers doing the most outstanding job of selling and promoting North Carolina products.



### **Western N. C. Agricultural Center**

During the summer of 1967, the Western North Carolina Agricultural Center at Asheville was completed and formally dedicated on August 22 of that year.

The planning for the above named center was started prior to the 1963 General Assembly. The original request for the facility was for \$200,000, but only one half of this amount was appropriated by the 1962 General Assembly. The late Commissioner Ballentine appointed a committee to decide where this facility would be located among the 18 western-most counties. In the meantime, the city of Asheville donated a 25 acre site near the Asheville airport. This donation was very valuable because the original appropriation was not enough to construct the needed facility. However, the project had to be delayed until the 1965 General Assembly could enact legislation to enable the state to accept the 25-acre site.

After the site was legally obtained, plans were begun by Six Associates, Inc. of Asheville. The high rise in building construction made it more difficult to build the facility needed. A request was made to Governor Moore to provide assistance in grading and paving of the access road as well as grading and stabilizing the parking lots. The Governor aided greatly by granting this request, but the project was further delayed by trying to obtain a portion of these funds through the Appalachian Regional Commission. The Appalachian Regional Commission finally provided some assistance to the construction cost of the access road.

The building was completed in the summer of 1967 and it consists of a large exhibit barn 50 feet by 250 feet and a concrete block show arena type building approximately 80 feet square with a seating capacity for approximately 450 people.

The facility was dedicated in August of 1967 and is now in use. The Agriculture Center is used for various livestock events for 4-H Club and Future Farmers of America Members, for purebred cattle sales and show, educational meetings, agricultural field days, demonstrations, exhibitions, etc.

The 1967 General Assembly appropriated \$25,000 for a Youth Center to be constructed on the site of the Western North Carolina Agricultural Center. This building will be a dormitory type building approximately 30 feet by 60 feet which will provide youth groups a place to spend the night while participating in



events held at the facility. It will also be used as a site to hold agricultural meetings. It is now in the final planning stages by an architect.

### **Structural Pest Control**

A significant accomplishment during this biennium was the revision of the North Carolina Structural Pest Control Law. The new law brought it under one authority. Divided authority under the old law had made its administration cumbersome and ineffective. The new law also provided collection of fees sufficient to carry out the law effectively. As a result of this legislation a Structural Pest Control Division in the Department of Agriculture, under the supervision of the Commissioner of Agriculture, has been added to the organizational structure of this department.

The new division was organized immediately after enactment of this legislation, headed by Rudolph E. Howell who had been supervising inspector of structural control work under the former Structural Pest Control Commission. With the funds and authority provided by the amended legislation this work is affording consumers the protection intended for them. Violators have been prosecuted and convicted.

The treatment of buildings for wood destroying insects and other organisms is an area of work in which the consumer is particularly vulnerable, because very few are able to determine for themselves whether treatment is either needed or has been performed after it has been paid for. Unqualified, fly-by-night operators can collect large sums of money to treat property which either had no need for it, or which was charged for but not properly treated. The North Carolina Structural Pest Control Law requires those engaged in such work to be licensed after taking examinations to prove their qualifications.

### **N. C. State Fair**

The North Carolina State Fair has made great progress in this biennium both in terms of participation in, and excellence of, the annual exhibitions and in terms of improvements to physical facilities, most of which have been paid for out of the Fair's own revenues. There is, however, need for general fund appropriations to build a new, up-to-date exhibit building on the fairgrounds to replace old highway buildings which were accepted by the fair with the understanding that they would be torn down

a number of years ago to permit straightening of the highway at that point. Need for the new exhibit building becomes more acute with each passing year and funds for this are included in the department's capital improvement budget requests.

### **Agricultural Hall of Fame**

Another important accomplishment during this biennium was the formal opening and dedication of the Agricultural Hall of Fame. This took place on February 23, 1967. The principal dedication address was given by Dr. I. O. Schaub, former Dean of Agriculture at North Carolina State University and a prime mover in sponsoring the legislation which created the Hall of Fame. Governor Dan Moore also spoke, Lieutenant Governor Robert W. Scott whose father was one of the honorees gave the response on behalf of the families of those enshrined at this dedication ceremony, and the Hall of Fame Honor Roll was presented by Alonzo C. Edwards, member of the Hall of Fame Board of Directors.

Eight persons were enshrined at this opening of the Hall of Fame. They were:

Dr. Leonidas LaFayette Polk (1837-1892), North Carolina's first Commissioner of Agriculture, founder of the Progressive Farmer and prime mover in the formation of the National Farmers' Alliance and Industrial Union.

Dr. Clarence Poe (1881-1964) noted agricultural leader, editor and author.

Dr. Jane S. McKimmon (1867-1957), who introduced and established home demonstration work in North Carolina. She is the first woman to be awarded this honor.

L. Y. Ballentine (1899-1964), who was for 15 years commissioner of agriculture for North Carolina, after having served for eight years on the Wake County Board of Commissioners, four terms as State Senator and a four-year term as Lieutenant Governor.

Dr. Hugh H. Benett (1881-1960), internationally known as "father of soil conservation." A prime mover in establishing the Soil Conservation Service, he became its first chief in 1935, and served in that post until October, 1951, when he became special assistant to the Secretary of Agriculture. He held the latter position until his retirement in 1952.

W. Kerr Scott (1896-1958), who served agriculture as county



agent, Master of the State Grange, Commissioner of Agriculture for North Carolina for 12 years, Governor of North Carolina for four years, and had been serving in the United States Senate for four years at the time of his death.

R. Flake Shaw (1889-1957), who served for 12 years on Guilford County Board of Commissioners, seven years on the state committee under the Agricultural Adjustment program, and 17 years as executive vice president of the North Carolina Farm Bureau Federation.

Thomas Everett Browne (1881-1965), leader in establishing the 4-H Club movement and the National Future Farmers of America, and North Carolina's vocational education program; Director of Vocational Education for North Carolina, and Professor of Education at North Carolina State College of Agriculture and Mechanical Arts (now North Carolina State University).

Since the dedication, two more persons have been named to the honored in the Agricultural Hall of Fame. They are:

Benjamin Wesley Kilgore (1867-1943), and Jasper Edgar Winslow, (1881-1958). Dr. Kilgore, born in Mississippi, came to North Carolina in 1889 and served as state chemist for 44 years. He was Director of the North Carolina Experiment Station and the first Director of the North Carolina Agricultural Extension Service. He also served as Dean of Agriculture of North Carolina State College (now North Carolina State University), helped to organize the Progressive Farmer, and was a director of that magazine for 42 years.

Dr. Winslow was an outstanding farm leader in developing and helping to get enacted legislation for the farm programs put into effect in the early days of President Roosevelt's first administration, many of which are still in effect today. He was a leader in the formation of the North Carolina Farm Bureau, and was elected its first president, served in that office for ten years, and then was named President Emeritus for life. He also served a term as a member of the North Carolina State Board of Agriculture and was a director of the Flue-Cured Tobacco Stabilization Corporation and a leader in the formation of Tobacco Associates.

Ceremonies for the formal enshrinement of Dr. Kilgore and Mr. Winslow will be held in the near future.

During this biennium, two valuable members of the Hall of Fame Board of Directors died very suddenly. On November 12,



1966, Dr. David S. Weaver died following a heart attack suffered the previous week. Dr. Weaver had been reappointed to the Board of Directors only a short time before his death. On March 1, 1968, Alonzo C. Edwards, who had served on the board for a number of years, also died within a few days following a heart attack.

Both of these members had made valuable contributions to the Hall of Fame program and they are greatly missed not only from this Board, but from every area of agricultural and rural life of the state. We have been most fortunate in that Governor Moore has appointed to succeed them members who are equally qualified to contribute a wealth of information on North Carolina's agricultural history to the deliberations of this group. They are L. R. Harrill, former 4-H director at North Carolina State University, appointed to the vacancy that was left by Dr. Weaver's death; and Dr. James H. Hilton, former Dean of Agriculture at North Carolina State University, appointed to the membership left vacant by the death of Mr. Edwards.

#### ACTIVITIES OF THE ADMINISTRATIVE OFFICE

The many consumer protection and agricultural programs of the Department require its administrative officers to participate in coordinated activities at the State Regional and Federal levels.

By legislation the Commissioner of Agriculture is Chairman of the State Board of Agriculture, The State Board of Gasoline and Oil Inspection and The Board of Directors of the North Carolina Hall of Fame; member of the North Carolina Milk Commission, the Crop Seed Improvement Board and the Atomic Energy Advisory Committee.

In the state the Commissioner is a member of the Board of Directors of the Agricultural Foundation of North Carolina State University, the Cotton Promotion Committee, the North Carolina Board of Farm Organizations and Agencies, the North Carolina Committee on Migrant Labor, the Governor's Council on Occupational Health, the North Carolina Council on Food and Nutrition, the North Carolina Veterinary School Selection Committee, and the Board of Directors of North Carolina Rural Rehabilitation Corporation.

The Commissioner, is also, of course, a member and active participant in the National Association of the State Departments of Agriculture and the Southern Association of the State Departments of Agriculture. He was elected to the office of vice-president of the Southern Association in 1967-68, and in June 1968, was elected president for the year 1968-69.

Under the old Structural Pest Control Law, Assistant Commissioner of Agriculture John L. Reitzel was appointed to represent the Department of Agriculture at large and under the new law he has been appointed a member of the Structural Pest Control Committee and has been named chairman of the group. J. Hawley Poole has been named the Board of Agriculture representative on this Committee.

The Assistant Commissioner of Agriculture also represents the Department on the Animal Nutrition Committee at North Carolina State University, the Fertilizer Advisory Committee, and is a member of the Southern and National Associations of Pesticide, Seed and Fertilizer Regulatory Officials.

State law provides for the licensing and regulation of rendering plants operating in this state. Unlike most laws administered by this department, authority to adopt regulations is not placed with the Board of Agriculture, but with the Commissioner of Agriculture acting with the advice of a rendering plant inspection committee. Composition of the committee is specified by law to be "one member who shall be designated by the Commissioner of Agriculture and who shall be an employee of the Department of Agriculture, one member who shall be designated by the State Health Director and who shall be an employee of the State Board of Health, and one member who shall be designated by the Director of the North Carolina Division of the Southeastern Renderers Association." Dr. T. F. Zweigart, State Veterinarian, is the Department of Agriculture member designated to serve on this committee.

There are now 16 rendering plants licensed to operate in the state. All of these are inspected by members of the committee, at least once, some several times, each year to insure continued compliance with the law and regulations.



## STATE BOARD OF AGRICULTURE

The Board of Agriculture is the regulatory and policy making body of the Department of Agriculture. Its membership currently, and by long tradition, represents the finest kind of intelligent agricultural leadership and dedicated public service.

The Board consists of 10 members appointed by the Governor for six-year terms of office. However, the law provides for staggered terms, so that not all expire at one time, and requires that the members shall be active farmers representing the major sections and types of agriculture in the state.

The multiplying problems of progress place commensurately heavier burdens upon this Board. Regulatory provisions on which they must pass increase in complexity and in number. The Board members are all busy farmers and businessmen, active in many civic affairs at community and state level. Except for a nominal pay for days actually in session or traveling on business for the Board, their only compensation is the knowledge that they are serving their state and their nation. Yet they give without stint of their time and talents to the business of the Board not only in formal sessions but in travel and other activities to further the interests of the Department and North Carolina Agriculture.

During this biennium, the Board has spent 12 days in full sessions. For many of the members this means from one and one-half to two days away from their farms and businesses; and a number of meetings have necessarily to be held during their busiest season. In addition, members have had to spend time on special committees appointed to work out details of transactions to present recommendations to the full Board.

Beginning on page 41 is a summary of matters brought before the board during this biennium. This gives some idea of the multitude and variety of decisions which must be made by this Board, although such a brief summary can give no real indication of how knotty and time-consuming are many of the matters on which they have to act.

## PERSONNEL

### Changes

As is generally true in any biennial period, the department has during this biennium lost some valuable personnel in key posi-

tions by reason of death or retirement.

In November, 1966, the Department lost a long-time faithful employee in the death of Carson W. Sheffield. He had been with the Department's Division of Markets longer than any man then presently connected with the division. In most of this period of time he had worked primarily with farmer cooperatives and made an outstanding contribution to the cooperative program in North Carolina.

John A. Winfield, Director of the Division of Markets, elected to retire as of January 1, 1967. Winfield had served as head of the division since 1950 and prior to that, had served for six years as head of the Market News Service. We were most fortunate in having a very able young man within the Department to move into this position in the person of Curtis F. Tarleton.

Tarleton had come to the Markets Division to head up the Market News Service in 1950. In 1965 he was named coordinator of matching funds and in July, 1966, promoted to assistant director of the division for market development. He came to the position of director with a well rounded knowledge of all areas of the varied programs in this very large division.

Francis W. Patterson, head of the dairy division, died after an illness of several months on January 8, 1967. He had served as Assistant Director of the Dairy Division for seven years and as Director for five years prior to his death. He made outstanding contributions to the program and was an effective administrator of all of its service and regulatory aspects.

We were fortunate to be able to fill the post of Dairy Division Director with a man who is native of North Carolina and was well rounded in experience to qualify him for the position. Leonard F. Blanton came to the department from the University of Maryland where he had for several years been dairy utilization specialist, conducting extension programs in Maryland and several other states for the federal extension service.

On December 31, 1967, Mrs. Grace W. Malloy, director of the Department's accounts division for eleven years, elected to retire. Mrs. Malloy had done an outstanding job under increasingly difficult and complicated conditions, and was of an unestimatable value to the Department in the budgeting and handling of its fiscal affairs. We were fortunate in being able to obtain as her replacement, Alex M. Lewis who came to the Department after 10 years service in the North Carolina Department of State Auditor, where he had risen to the post of senior auditor.



### Honors and Awards

The general excellence of performance of the personnel of this department; their attitude of genuine desire to serve the public beyond the requirements of their positions; their good judgment and tact in serving the public, particularly in carrying out regulatory responsibilities, are a source of gratification to those of us in the department's administrative offices. They are also of importance to all the people of this state.

During this biennium, a number of the department's staff people have received special honors and awards.

On July 18, 1966, George E. Spain, Director of the department's Seed Testing Division, was honored by the North Carolina Seedsmen's Association at its annual meeting. He received a plaque evidencing his selection for the Association's annual honorary Outstanding Seedsman Award.

On August 3, 1966, Jay P. Davis, Director of the Food Distribution Division, was honored at the National Conference on School Lunch and Food distribution for "20 years of continuous, dedicated, and effective administration of the cooperative federal-state-community school lunch and distribution programs."

In August of 1966, Henry L. Rasor, head of the cooperative Crop Reporting Service and director of the Department's Statistics Division, was honored by the U. S. Department of Agriculture magazine, "Agricultural Situation."

Assistant Commissioner John L. Reitzel was honored by North Carolina State University in May of 1967 as an outstanding alumnus. He was initiated into the Scientific Honorary Society Gamma Sigma Delta for professional service and achievements since graduating from N. C. State University.

Dr. E. W. Constable, State Chemist and Director of the Analytical Division, received the Harvey W. Wiley award given annually by the Association of Food and Drug Officials of the United States for outstanding contributions to the field of chemistry. The citation read: "In recognition of outstanding service and devotion to duty in administering the food and drug laws of his state, and the leadership, guidance, and inspiration he has provided his fellow workers throughout the nation." The award was given at the Association's annual meeting in the summer of 1967.

At approximately this same time, the Meat Inspection Service

of the North Carolina Department of Agriculture was given a certificate "in recognition of the North Carolina Department of Agriculture's Meat and Poultry Inspection Service's contribution to the cooperative Animal Disease Eradication Program through the collection of specimens and data on animal diseases encountered in packing houses and processing plants." This is a rare award. The Department is justly proud of it, and is indebted to Dr. Earl W. Stapp, supervisor of the meat and poultry inspection, and his able staff for bringing this honor to North Carolina.

Also in the summer of 1967, I had the pleasure of accepting on behalf of the North Carolina Department of Agriculture, a Federal Land Bank of Columbia medal awarded to the department for "outstanding contributions to American Agriculture." This medal is authorized by Congress and the President of the United States and is given annually by the Federal Land Bank of Columbia.

In the spring of 1968, Roger L. Mozingo, tobacco marketing specialist with the department, received a career education award from the National Institute of Public Affairs. The Institute gave this brilliant young man a \$1,000 scholarship and will pay his salary during the nine months he will be studying at Cornell University. He will be greatly missed from his post in the department during his leave of absence, but his work will be carried on by others taking on a temporary extra load, and this opportunity for postgraduate education will enhance his value to the department.

The Employee of the Month award, initiated during the 1964-66 biennium, has continued during this biennial period. The general excellence of performance of the employees in all types of work throughout the department make these monthly choices somewhat difficult; but, in general, the selection committee tries to pick out the employee who has made the most outstanding contribution during the particular month for which the award is given.

Recipients of the award during this biennium were:

## 1966

July—Charles B. Elks, head of the engineering section of the Division of Markets.

August—Magdalene G. Brummitt, senior seed analyst in the Seed Testing Division.



September—Mrs. Roy B. Kipp, administrative assistant to the State Fair Manager.

October—Troy M. Bunn, State Fair superintendent of buildings and grounds.

November—John A. Winfield, Director of the Division of Markets.

December—Mrs. Frances O'Neal, secretary to the Director of the Warehouse Division.

## 1967

January—Lunelle Yeargan, appropriations and maintenance control officer in the Division of Accounts.

March—Raymond Burnette, weights and measures inspector.

April—Mrs. Katherine B. Koppen, secretary to the Director of the Division of Markets.

May—Mrs. Linda Suggs Puglia, receptionist.

June—Miss York Kiker, marketing specialist and home economist in the promotions section of the Markets Division.

July—William B. Harris, in charge of the farm census work in the Statistical Division.

August—Dr. E. W. Constable, State Chemist and Director of the Analytical Division.

September—Bettye Rogers, chief mail clerk for the Agricultural Review.

October—John L. Reitzel, Assistant Commissioner of Agriculture.

November—A Terry Peak, cotton marketing specialist.

December—Mrs. Grace H. Malloy, director of the Division of Accounts.

## 1968

January—Charles D. Edwards, marketing specialist in the Division of Markets.

February—Mrs. Dorothy T. Beck, secretary to the director of the Soil Testing Division.

March—John I. Moore, Director of the Weights and Measures and Gasoline and Oil Divisions.

April—Curtis F. Tarleton, Director of the Markets Division.

May—William L. Hamnett, Director of the State Museum of Natural History.

June—Guy A. Cutler, in charge of egg law inspections in the Division of Markets.

A new award—Employee of the Year—was initiated at the end of 1967. Mrs. Grace Malloy, retiring head of the Division of Accounts, received this award for 1967. A plaque, with spaces for names of these annual recipients for some years to come, has been obtained and hangs in the main lobby of the Agriculture Building.



**HIGHLIGHTS OF BOARD MEETINGS****1966-1968 Biennium****August 29, 1966  
Raleigh**

J. Atwell Alexander, Richard N. Barber, Henry Gray Shelton, George P. Kittrell, David Townsend, Jr., Charles F. Phillips, Claude T. Hall, Thomas O. Gilmore, and Thomas G. Joyner.

Feed Regulations;  
Low Protein  
Feeds For Poul-  
try; Complete  
Cattle Feed

Approved amendments to the feed regulations allowing sale of low protein feeds for pullets and young turkey hens, and also complete cattle fattening feeds.

Department's  
Financial Report

Received for study Department's annual fiscal report for year 1965-66.

Leases of Space at  
Farmer's Market

Recommended that the Department of Administration lease specified units of State Farmers Market property.

Reports on Pork  
and Egg Assess-  
ment Referen-  
dums

Accepted certification of the vote on pork assessment and egg assessment referendums.

Endorsement of  
Federal Regula-  
tion Amendment  
re Breeding  
Swine

Endorsed an amendment to Federal regulations requested by the N. C. Pork Producers Association to allow breeding swine eligibility for Commodity Credit Corporation grain.

Meat Inspection  
Procedures and  
Standards

Adopted new regulations governing meat inspection procedures and definitions and standards for meat products.

Hearing on Defini-  
tion of Coffee  
Creamer

Held hearing and postponed action on a request to amend the N. C. Dairy regulations to give the product known as "coffee creamer" another name.

Sale of Land at  
Mountain Re-  
search Station

Authorized sale of 1½ acres of Mountain Research Station land, after survey and appraisals, for use as an access road.

Warehouse Loan,  
House Milling  
Company

Approved a loan from State Warehouse Fund to House Milling Company of Newton Grove.

Investment of  
Warehouse Sys-  
tem Principal  
Fund

Authorized the Warehouse System to invest its principal fund as advised by the State Treasurer and Attorney General.

**October 10, 1966  
State Fair**

J. Atwell Alexander, Richard N. Barber, Jr., Thomas O. Gilmore, Claude T. Hall, Thomas G. Joyner, Charles F. Phillips, J. H. Poole, and David Townsend, Jr.

State Fair Open-  
ing Ceremonies  
and Inspection  
of Fair

Attended opening ceremonies of the N. C. State Fair following presentation of awards from the International Association of Fairs and Expositions to Mr. Hall and Mr. Poole for "20 years service and outstanding contribution" to the fair industry. Made annual tour and inspection of Fair.

**December 5, 1966**  
**Raleigh**

J. Atwell Alexander, Richard N. Barber, George P. Kittrell, J. H. Poole, David Townsend, Jr., Thomas O. Gilmore, Claude T. Hall, Charles F. Phillips, and Henry Gray Shelton.

- |  |   |
|--|---|
| Fertilizer-Pesticide Mixtures                          | Held public hearings and repealed regulations permitting fertilizer-pesticide mixtures effective July 1, 1967.  |
| Boron-Pesticide Mixtures for Peanuts                   | Readopted regulations permitting boron pesticide-mixtures for peanuts.  |
| Borax-Landplaster Mixtures for Peanuts                 | Voted to extend the regulations for borax-landplaster mixtures for peanuts from December 6, 1966, to December 31, 1967.   |
| Sweetpotato Promotion Assessment Referendum            | Approved a request by the N. C. Yam Commission to hold a referendum in 1967 on continuing the sweet potato promotion assessment.                                    |
| Egg Products Regulations                               | Adopted a motion to make permanent the regulations governing egg products adopted on a one-year trial basis on December 6, 1965.                                    |
| Egg Law Advisory Committee                             | Approved without formal motion the Commissioner's appointments to the Egg Law Advisory Committee.   |
| Regulations Governing Interstate Movement of Livestock | Approved a request to amend regulations so feeder cattle entering from out of state may obtain a tuberculosis and Bang's disease waiver under specified conditions. |
| Dairy Regulations Butterfat in Ice Milk                | Amended dairy product regulations governing butter fat requirements for ice milk to accord with Federal regulations.  |
| Eggnog Butterfat                                       | Approved a proposal to reduce the minimum milk fat content requirement for eggnog.  |
| Boiled Custard   | Discussed but postponed action on a request for a definition of a product called "boiled custard."  |
| Pest Quarantine Areas                                  | Amended regulations on specified pest quarantines to include provisions for emergency designation of "other areas" of infestation.                                  |
| Land at Old Piedmont Test Farm, Statesville            | Authorized a committee from Board to handle sale of remaining land at Old Piedmont Test Farm property.  |
| Museum Director Appointment Approved                   | Approved the appointment of William L. Hamnett as permanent director of the State Museum of Natural History.  |

**February 22, 1967**  
**Raleigh**

Present: J. Atwell Alexander, Richard N. Barber, Jr., Thomas O. Gilmore, Claude T. Hall, Henry G. Shelton, Thomas G. Joyner, George P. Kittrell, Charles F. Phillips, J. H. Poole, David Townsend, Jr.

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|--|---|
| Honored Francis W. Patterson, Deceased | Adopted resolution honoring Francis W. Patterson, recently deceased head of the Dairy Division, for his 20 years service with the North Carolina Department of Agriculture. |
|--|---|



Amendments to Canned Dog Food Regulations	Held public hearing. Heard committee's recommendations and deferred action on amendments to the canned dog food regulations.
Tidewater Research Stations Livestock programs	Approved expansion of livestock programs at the Tidewater Research Station.
Land for Peanut Research Station	Approved purchase of a small tract of land for the Peanut Belt Research Station.
Duke Power Co. Right-of-Way Easement, Piedmont Research Station	Approved easement to Duke Power Company for an additional line at Piedmont Research Station.
Amendments to Garbage Fed Swine Regulations	Held public hearing. Heard discussion and approved amendments to regulations governing the feeding of garbage to swine.
State Fair Manager's Authority	Approved resolution reaffirming delegation of authority to the manager of the N. C. State Fair.
State Fair Audit Report	Received and reviewed State Fair Audit Report, commended Arthur K. Pitzer, manager of the N. C. State Fair, for his good record in the '66 fair's operation.
Amendments to Dorton Arena Regulations	Approved amendments to the rules, regulations, etc. pertaining to the rental of Dorton Arena at the Fair Grounds.
Comprehensive Plan For State Fair Grounds	Approved the development of a comprehensive plan for best use of present and future properties of the N. C. State Fair and a request to the N. C. General Assembly for funds to employ planning personnel.
Head of Markets Division Appointment	Approved appointment of Curtis F. Tarleton as head of the Markets Division.
Handler's Permits and Bond Limits	Endorsed proposed amendment to the Handler's Act concerning the issuance of permits to handlers and appropriate bond limits.
Research Stations at Faison and Willard	Endorsed a proposal for the consolidation or merger of the Research Stations at Faison and Willard.
Endorsed Warehouse Act Amendments on Grain Warehouses	Authorized a request to the General Assembly to remove all grains from the provision of the Warehouse Act, or to allow the N. C. Department of Agriculture to collect a levy for support of the warehouse system on all grain sold in North Carolina.
Warehouse Loan to Maxton Oil and Fertilizer Co.	Heard discussion and deferred action on a proposal for a loan to Maxton Oil and Fertilizer Company to finance additional soybean storage facilities.
Head of Dairy Division Appointment Approved	Confirmed the appointment of Leonard F. Blanton as head of the Dairy Division.
Livestock Disease Law Amendments	Authorized the drawing up of bills amending laws on hog cholera, bang's disease, garbage feeding, pullorum, etc., administered by the Veterinary Division.

Endorsed Appropriation for Research on Insect and Pests Affecting Ornamental Crops	Endorsed a proposed bill to provide research studies on insect and pests affecting North Carolina ornamental crops.
<b>April 6, 1967</b> <b>Raleigh</b>	J. Atwell Alexander, Richard N. Barber, Jr., Claude T. Hall, Thomas G. Joyner, David Townsend, Jr., George P. Kittrell, Charles F. Phillips, J. H. Poole, and Henry Gray Shelton.
Sweet Potato Weevil Quarantine and Regulations	Adopted regulations aimed at eradicating the sweet potato weevil in North Carolina.
Lease of Space at Farmer's Market	Approved re-leasing of space at the State Farmer's Market to the Dixon-Tom-A-Toe Co. Inc.
<b>June 2, 1967</b> <b>Raleigh</b>	J. Atwell Alexander, Claude T. Hall, George P. Kittrell, David Townsend, Jr., Charles F. Phillips, and J. H. Poole.
Fertilizer Grade List	Held public hearing and adopted list of fertilizer ratios and minimum grades for application in 1967-68.
Boron-Pesticide Mixtures for Peanuts	Adopted on a permanent basis specified regulations governing boron-pesticide mixtures for peanuts.
Fertilizer-Pesticide Mixtures	Voted to approve sale of fertilizer-pesticide mixtures in packages of 25 pounds or less under certain conditions.
Lease of Space at Farmer's Market	Voted to recommend that the Department of Administration lease specified units of Farmer's Market property to Raleigh Banana Company.
Annual Audit of Department	Heard and approved the annual audit of the N. C. Department of Agriculture.
Highway Right-of-Way, Peanut Research Station	Voted to recommend that the Department of Administration grant the State Highway Commission specified property at the Peanut Research Station.
Oxford Research Station, Land Committee	Authorized a committee of Board members to offer prices on specified units of Oxford Research Station property.
Oxford Research Station, Lease of Land to USDA	Approved a motion to lease specified property at the Oxford Tobacco Research Station to the U. S. Department of Agriculture.
Health Regulations for Admission of Livestock	Adopted changes in livestock and poultry health regulations to assure movement of animals is not unduly restricted in light of altered circumstances.
Structural Pest Control Legislation	Endorsed bill submitted to the House Judiciary Committee vesting authority to administer the Structural Pest Control Law in the Commissioner of Agriculture.
Warehouse Receipt Forms	Approved form and design of warehouse receipts and gave the State Warehouse Superintendent authorization to order "bearer", instead of "order", type receipts.
Warehouse Loan	Gave tentative approval to a proposal to make a warehouse loan to Maxton Oil and Fertilizer Company of Maxton.



Licensing of FCX Warehouse	Authorized the State Warehouse Superintendent to bring under the State Warehouse System FCX grain warehouses at Farmville, Lumberton and Whiteville.
North Carolina Food Exhibit Commended	Commended the Division of Markets for an excellent exhibit constructed to display North Carolina products.
Lease of Spaces at Farmer's Market	Voted to recommend that the Department of Administration lease specified units of Farmer's Market property to Ennis & McGee Produce Company, and approve cancellation of Honeycutt Fruit and Produce Company's lease.
Lease of Food Storage Warehouse at Salisbury	Voted to request that the Department of Administration renew a lease of food storage space in the Annie G. Ketner warehouse at Salisbury to the Agriculture Department.
<b>August 21, 1967 Raleigh</b>	J. Atwell Alexander, Richard N. Barber, Jr., G. E. Fisher, Claude T. Hall, George P. Kittrell, J. H. Poole, Henry Gray Shelton and David Townsend, Jr.
Public Livestock Market Regulations	Adopted changes in the public livestock market regulations to coincide with the law as rewritten by the last Legislature.
Brucellosis Regulations	Adopted regulations under the Brucellosis Law as rewritten by the 1967 General Assembly.
Authorized PPLO Testing and Fees	Approved a proposal to charge a fee of ten cents per test conducted on laying hens for PPLO disease.
Marketing and Branding Apples and Peaches Regulated	Adopted regulations governing the marketing and branding of apples and peaches.
Egg Marketing Regulations Amended	Amended the egg marketing regulations by updating references to Federal regulations.
Dairy Regulations Amended	Amended the dairy regulations defining "chocolate flavored milk" and "chocolate flavored low-fat milk," and changing definitions for "half and half" and "creamed cottage cheese."
Report on Work of N. C. Cattle-men's Association	Heard a report given on the activities of the North Carolina Cattlemen's Association given by W. B. Austin, Jr., executive secretary.
Structural Pest Control Division Head Approved	Approved the appointment of Rudolph E. Howell as head of the Structural Pest Control Commission.
Western N. C. Agricultural Center Operation	Adopted policy on operation of the Western North Carolina Agricultural Center.
Feed and Forage Testing Fees	Approved a proposal to set a specified fee for tests performed on feeds and forage by the Soil Testing Division.
Resolutions Honoring Former Board Members	Adopted resolutions expressing appreciation of services rendered by former Board members Thomas O. Gilmore and Thomas G. Joyner.

**October 9, 1967**  
**Raleigh**

J. Atwell Alexander, Richard N. Barber, Jr., Fred N. Colvard, Guy E. Fisher, Charles F. Phillips, J. H. Poole, Henry Gray Shelton, and David Townsend, Jr.

Lease of Space at  
Farmer's Market

Recommended that the Department of Administration lease specified units of Farmer's Market property to Mac's Produce, and similar units to Dixon Tom-A-Toe Companies, Inc.

Oxford Research  
Station, Right-  
of-Way Ease-  
ment to CP&L

Recommended that the Department of Administration grant a right-of-way easement on Oxford Research Station property to Carolina Power & Light Company.

State Fair Opening

Attended opening ceremonies and inspected 1967 State Fair.

**December 11, 1967**  
**Raleigh**

J. Atwell Alexander, Guy E. Fisher, Claude T. Hall, Charles F. Phillips, J. H. Poole, Henry Gray Shelton, and David Townsend, Jr.

Canned Dog Food  
Regulations

Held public hearing and amended regulations on canned dog and cat foods, affecting the "complete" food, and adding definitions and standards for "supplement" foods.

Permission For  
Serum Treated  
Hogs to Enter  
State

Amended regulations on livestock and poultry entering the State to permit admission of swine treated with anti-hog cholera serum only.

Hog Cholera  
Vaccine Use  
Limited

Approved limiting use of modified live virus hog cholera vaccines to persons holding permits issued by State Veterinarian.

Oxford Research  
Station, Ease-  
ment to Tele-  
phone Company

Voted to recommend that the Department of Administration grant an easement of specified Oxford Tobacco Research Station land to the Carolina Telephone and Telegraph Company.

Piedmont Re-  
search Station,  
Sale of Timber

Authorized the Piedmont Research Station to advertise for bids on certain timber, clearing of which is required to construct an irrigation dam.

Honoring Mrs.  
Grace Malloy

Approved a resolution of appreciation honoring Mrs. Grace Malloy upon hearing her announced intention to retire as Accounts Division Director.

Accounts Division  
Director Ap-  
proved

Approved appointment of Alex M. Lewis to the position of Accounts Division Director.

**December 12, 1967**  
**Raleigh**

J. Atwell Alexander, Fred N. Colvard, Guy E. Fisher, Claude T. Hall, Charles F. Phillips, J. H. Poole, Henry Gray Shelton, and David Townsend, Jr.

Farmer's Market  
Expansion

Authorized the Manager of the State Farmer's Market to investigate borrowing money to enlarge Market facilities.

Budget Request  
Review

Reviewed and approved the Departments budget requests for the 1969-71 biennium.



March 25, 1968 Raleigh	J. Atwell Alexander, Guy E. Fisher, Claude T. Hall, Charles F. Phillips, J. H. Poole, Henry Gray Shelton, David Townsend, Jr., Richard N. Barber, and George P. Kittrell.
Dairy Association Referendum Approved	Approved a request by the American Dairy Association of North Carolina to hold a referendum on levying an assessment on Grade A milk.
Seed Regulation Amendments	Approved amendments of the seed regulations setting uniform standards of statistical tolerance in tests for germination, purity and noxious weeds, with adjusted limitations to be effective January 1, 1969.
Report on Activities of N. C. Pork Producers Association	Heard a report on the activities of the North Carolina Pork Producers Association, Inc., by James K. Butler, Jr., executive secretary.
State Fair Audit Report	Approved the State Fair audit report, and commended Fair Director Art Pitzer for his accomplishments and plans.
Sweetpotato Weevil Quarantine Areas	Approved the designation of specified areas as quarantined against sweet potato weevil.
Coastal Plains Research Station Sale of Timber	Adopted a proposal to cut certain timber at the Coastal Plains Research Station and sell it for lumber.
Tidewater Research Station, Sale of Timber	Adopted a proposal to clear certain land at the Tidewater Research Station for pasture, and sell the timber.
Oxford Research Station, Sale of Building	Approved sale of an old brick building of property of the Oxford Tobacco Research Station.
Upper Coastal Plain Research Station Buildings	Authorized the Upper Coastal Plain Research Station to ask for bids toward construction of certain new buildings, and sell certain old ones.
Peanut Research Station, Drainage Canal	Authorized the Peanut Research Station to obtain an easement for a drainage canal, and then proceed with dredging.
Dairy Regulations Committee Progress Report	Heard a progress report on work done by the Dairy Regulations Study Committee.
Farmer's Market Progress Report	Heard a progress report on operations and plans of the State Farmer's Market in Raleigh.
Warehouse Loans	Approved loans from the State Warehouse Fund to Producers Feed Mill of Monroe and to E-B Grain Company of Battleboro.
Foreclosure on Warehouse Loan	Authorized the State Warehouse Superintendent to initiate foreclosure proceeding against Moyock Trading Company, and handle attendant matters.

June 10, 1968  
Raleigh

J. Atwell Alexander, Richard N. Barber, Jr., Guy E. Fisher, George P. Kittrell, Charles F. Phillips, J. H. Poole, Henry Gray Shelton, and David Townsend, Jr.

Fertilizer Grade  
List

Held public hearing on the fertilizer grade list, for 1968-69, and adopted list adding two general crop ratios with minimum grades, and deleting one tobacco fertilizer ratio; also added 15-0-15 as a "mixture" grade on both the general crop and tobacco fertilizer lists, while retaining Chilean nitrate as a "material."

Boron-Landplaster  
Mixture for  
Peanuts

Heard notice of proposals to change regulations on boron-landplaster mixtures for peanuts and fertilizer-landplaster-pesticide mixtures, to be presented later at meeting in advertised public hearing.

Fertilizer Law,  
Acidity and  
Basicity Re-  
quirements

Heard discussion on the advisability of retaining a guarantee of acidity and basicity, required on mixed fertilizers by the Fertilizer Law.

Fertilizer-Pesti-  
cide Labeling

Amended the fertilizer-pesticide regulations to bring labeling requirements into conformity with earlier amendments.

Apple Growers  
Referendum

Approved a request by the North Carolina Apple Growers Association to hold a referendum among commercial producers on an assessment for use to promote North Carolina apples.

Warehouse for  
Food Distribu-  
tion in Asheville  
Area

Authorized the Food Distribution to request funds to acquire storage space in the Asheville area.

Sale of Warehouse  
at Moyock

Approved a proposal to sell the Moyock Trading Company warehouse property acquired at foreclosure to the Currituck Grain Company for a specified amount.

Warehouse Fund  
Loan Policy

Adopted a statement of policy to require a plat showing survey of property subject to mortgage before considering any loan from the Warehouse Fund.

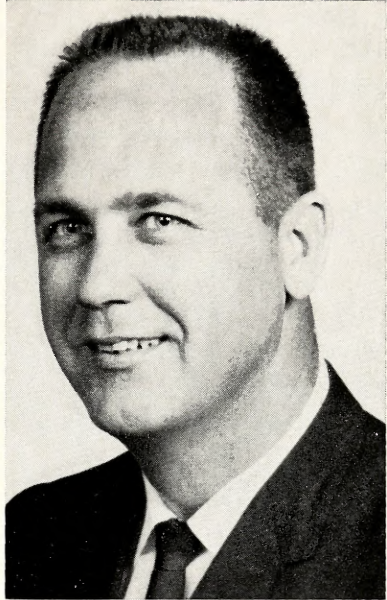


# ACCOUNTS

ALEX M. LEWIS  
*Controller*

The Central Division of Accounts and Personnel is responsible for management and control of the fiscal and personnel affairs for the Department of Agriculture proper and all other General Fund and Special Fund Programs administered by the department.

Responsibilities of this division include: procurement of operational funds, procurement of operational supply requirements, acceptance and accounting for receipts, the disbursement of funds, budget maintenance and control, the collection of a variety of taxes and fees and the collection of assessments for ten agricultural promotional organizations and foundations, and personnel management and control.



## DEPARTMENT OF AGRICULTURE

General Fund — Code 28021

Statement of Disbursements

July 1, 1966-June 30, 1968

Summary By Purposes	1967-68	1966-67
General Administration: -----	\$ 334,831.01	\$ 588,059.00
Administration -----	78,335.43	71,383.13
Accounting -----	116,053.49	98,696.10
Publications -----	60,942.56	51,117.01
Custodial -----	9,420.00	20,900.48
Miscellaneous -----	70,079.53	345,962.28
Inspection and Regulation: -----	1,266,832.19	1,109,160.90
Feed, Fertilizer, Insecticide Inspection --	101,241.74	93,741.24
Egg Inspection -----	60,210.72	56,151.79
Entomology Inspection -----	183,026.14	115,446.91
Weights and Measures Inspection -----	196,147.82	190,120.36
Meat and Poultry Inspection -----	726,205.77	653,700.60

<b>Markets Division</b> -----	583,628.14	520,291.81
Analytical and Regulation: -----	819,253.10	756,437.59
Dairy Services -----	115,668.02	104,855.24
Seed Testing -----	138,650.10	114,702.11
Analytical (Chemistry) -----	385,293.06	378,005.99
Soil Testing -----	179,641.92	158,874.25
<b>Crop Statistics Division</b> -----	195,589.47	182,528.49
<b>Veterinary Division</b> -----	980,898.64	758,368.20
<b>Research Stations Operations</b> -----	905,617.31	828,545.16
<b>State Museum of Natural History</b> -----	82,291.99	67,647.67
<b>Distribution of USDA Donated Commodities:</b>		
Revolving Fund -----	6,191.91	2,046.93
General Program — Distribution to		
Needy Families -----	453,427.18	411,330.99
Federal Aid to Needy Counties -----	2,101.37	
<b>Imprest Cash Fund</b> -----	9,300.00	8,800.00
<b>Fire Ant Control</b> -----		41,933.40
<b>Agricultural Center, Western N. C.</b> -----	3,117.68	115.82
<b>Tokyo, Japan Food Exhibition</b> -----	8,652.32	
<b>Chick Haven Milling Company vs. NCDA</b> --	17,563.65	
<b>Total Disbursements</b> -----	<u>\$5,669,295.96</u>	<u>\$5,275,265.96</u>

<b>Summary By Objects</b>	<b>1967-68</b>	<b>1966-67</b>
Salaries and Wages -----	\$3,987,577.50	\$3,527,012.80
Supplies and Materials -----	306,183.37	312,653.82
Postage, Telephone, Telegraph and Express -----	70,871.50	64,702.82
Travel Expense -----	374,992.96	324,384.82
Printing and Binding -----	33,434.88	38,989.76
Motor Vehicle Operation -----	29,310.97	28,466.34
Lights, Power and Water -----	12,203.78	12,024.32
Repairs and Alterations -----	61,322.59	66,189.12
General Expense -----	575,267.81	404,574.92
Insurance and Bonding -----	4,106.22	7,863.83
Equipment -----	167,471.71	146,753.45
Stores for Resale -----	19,689.02	22,232.96
Imprest Cash Fund -----	9,300.00	8,800.00
Contribution to Retirement System -----		197,458.00
Contribution to Social Security -----		113,159.00
Chick Haven Milling Company vs. NCDA --	17,563.65	
<b>Total Disbursements</b> -----	<u>\$5,669,295.96</u>	<u>\$5,275,265.96</u>



## Statement of Receipts

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
<b>Agricultural Receipts:</b>		
Fertilizer Tax -----	\$ 421,006.41	\$ 460,466.66
Feed Tax -----	196,417.25	191,678.48
Research Stations -----	311,904.80	326,737.66
Miscellaneous -----	514,152.78	522,494.89
<b>Federal Funds:</b>		
Research and Marketing Act -----	81,866.49	77,398.02
USDA Cooperative Agreement -----	2,570.68	3,630.83
Federal Aid to Counties -----	2,101.37	
Talmadge-Aiken Act -----	2,558.45	
<b>Miscellaneous Receipts:</b>		
Sale of Equipment -----	6,062.77	3,284.94
Transfers from Other Codes -----	52,267.00	15,766.43
Miscellaneous -----	99,869.73	69,029.34
Imprest Cash Redeposit -----	9,300.00	8,811.47
<b>Total Receipts -----</b>	<u><u>\$1,700,077.73</u></u>	<u><u>\$1,679,298.72</u></u>

## Summary Statement of Receipts and Disbursements

	1967-68	1966-67
<b>General Fund Appropriation -----</b>	<b>\$4,220,337.00</b>	<b>\$3,827,812.00</b>
<b>Receipts -----</b>	<b>1,700,077.73</b>	<b>1,679,298.72</b>
<b>Total Availability -----</b>	<b>\$5,920,414.73</b>	<b>\$5,507,110.72</b>
<b>Disbursements -----</b>	<b>5,669,295.96</b>	<b>5,275,265.96</b>
<b>Unexpended Balance June 30 -----</b>	<b><u><u>\$ 251,118.77</u></u></b>	<b><u><u>\$ 231,844.76</u></u></b>

## GASOLINE AND OIL INSPECTION

General Fund — Code 12201

## Summary Statement of Receipts and Disbursements

July 1, 1966-June 30, 1968

	1967-68	1966-67
<b>General Fund Appropriation -----</b>	<b>\$ 147,170.00</b>	<b>\$ 122,635.00</b>
<b>Receipts:</b>		
Transfer from Highway Fund -----	380,953.00	346,814.00
Sale of Equipment -----	44.47	
<b>Disbursements -----</b>	<b>492,686.50</b>	<b>441,292.22</b>
<b>Unexpended Balance of Appropriation -----</b>	<b><u><u>\$ 35,480.97</u></u></b>	<b><u><u>\$ 28,156.78</u></u></b>

**STATE WAREHOUSE SYSTEM FUND**

Special Fund — Code 28727

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1	\$ 56,571.40	\$ 80,094.90
Receipts:		
Supervision Collections	34,559.27	40,994.34
Fire Losses	36,264.70	1,500.77
Repayment of Loans	49,004.48	75,970.55
Guarantee Fund		324.18
Sale of U. S. Treasury Bills	338,000.00	48,000.00
Sale of Moyock Trading Company	1,950.00	
Disbursements:		
Supervision Expenditures	37,994.46	36,031.67
Fire Losses	36,264.70	1,500.77
Loans to Warehouses		25,500.00
Purchase of U. S. Treasury Bills	405,594.01	127,280.90
Fire Insurance Premium	719.00	
Cash Balance—June 30	35,777.68	56,571.40
Loans to Warehouses	424,731.01	473,735.49
Invested in 2½ % U. S. Govt. Bonds	88,000.00	88,000.00
Invested in U. S. Treasury Bills	160,000.00	82,000.00
Total Worth—June 30	\$ 708,508.69	\$ 700,306.89

**COOPERATIVE INSPECTION SERVICE**

Special Fund — Code 28731

Statement of Changes in Fund Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Fund Balance July 1	\$ 588,309.83	\$ 527,401.55
Receipts	757,820.72	767,956.82
Disbursements	787,308.32	707,048.54
Fund Balance June 30	\$ 558,822.23	\$ 588,309.83
Fund Balance Represented by:		
Treasurer's Cash	\$ 517,647.23	\$ 547,134.83
2½ % U. S. Government Bonds	40,000.00	40,000.00
Premium on Bonds	1,175.00	1,175.00
Balance as Above	\$ 558,822.23	\$ 588,309.83

**EGG MARKETING ACT**

Special Fund — Code 28733

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1		\$ 654.43
Receipts		
Disbursements:		
Transferred to Code 28021		654.43
Cash Balance—June 30		—0—



**STRUCTURAL PEST CONTROL**

Special Fund — Code 28735

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1	\$ 1,234.28	\$ 6,491.43
Receipts	71,272.00	13,697.00
Disbursements	57,929.92	18,954.15
Cash Balance—June 30	<u>\$ 14,576.36</u>	<u>\$ 1,234.28</u>

**CREDIT UNION SUPERVISION**

Special Fund — Code 28739

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1	\$ 96,234.64	\$ 75,053.91
Receipts	117,449.84	105,440.77
Disbursements	96,679.05	84,260.04
Cash Balance—June 30	<u>\$ 117,005.43</u>	<u>\$ 96,234.64</u>

**SHEEP AND WOODLAND REVOLVING FUND**

Special Fund — Code 28745

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1	\$ 96,533.04	\$ 97,278.96
Receipts	128,934.21	39,314.28
Disbursements	128,483.14	40,060.20
Cash Balance—June 30	<u>\$ 96,984.11</u>	<u>\$ 96,533.04</u>

**SPECIAL DEPOSITORY ACCOUNT**

Special Fund — Code 28751

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1	\$ 147,538.16	\$ 134,574.38
Receipts:		
Cash Bond Deposits	1,000.00	10,000.00
Surplus Commodities Revolving Fund	4,231.75	4,393.73
Research and Marketing Act	80,000.00	78,000.00
Hall of Fame		15.00
Federal Aid to Needy Counties	14,744.00	
Wholesome Meat Act	26,850.00	
Disbursements:		
Refund of Bond Deposits	10,750.00	
Reimbursement to Code 28021		
Revolving Fund	6,191.91	2,046.93
Transfer to Code 28021 RMA	81,866.49	77,398.02
Transfer to NCDA—Contingency Fund	33,219.00	
Transfer to NCDA—Federal Aid to Needy Counties	2,101.37	
Cash Balance—June 30	<u>\$ 140,235.14</u>	<u>\$ 147,538.16</u>

**OPERATION OF FARMERS MARKET**

Special Fund — Code 28755

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 22,204.65	\$ 20,834.88
Receipts -----	86,178.69	84,276.24
Disbursements -----	49,485.36	82,906.47
Cash Balance—June 30 -----	<u>\$ 58,897.98</u>	<u>\$ 22,204.65</u>

**CAPITAL IMPROVEMENTS OF 1959**

Code 65961

Statement of 1959 Capital Improvements

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Appropriation -----	\$ 367.60	\$ 367.60
Receipts -----		
Disbursements -----		
Unexpended Balance of Appropriation -----	<u>\$ 367.60</u>	<u>\$ 367.60</u>

**CAPITAL IMPROVEMENTS OF 1961**

Code 66108

Statement of 1961 Capital Improvements

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Appropriation -----	\$ .33	\$ .33
Receipts -----		
Disbursements -----		
Unexpended Balance of Appropriation -----	<u>\$ .33</u>	<u>\$ .33</u>

**CAPITAL IMPROVEMENTS OF 1963**

Code 66354

Statement of 1963 Capital Improvements

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Appropriation -----	\$ 19,040.63	\$ 104,421.94
Receipts: -----		
Highway Right-of-Way Easement -----		650.00
Disbursements -----	15,493.52	86,031.31
Unexpended Balance of Appropriation -----	<u>\$ 3,547.11</u>	<u>\$ 19,040.63</u>



**CAPITAL IMPROVEMENTS OF 1965**

Code 66558

Statement of 1965 Capital Improvements  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Appropriation -----	\$ 49,158.57	\$ 151,279.04
Receipts:		
Sale of Oxford Tobacco Research Station Land		
Sale of Land and Easement, Piedmont Research Station -----	10.00	
Disbursements -----	13,929.16	102,120.47
Unexpended Balance of Appropriation ----	\$ 35,239.41	\$ 49,158.57

**CAPITAL IMPROVEMENTS OF 1967**

Code 66770

Statement of 1967 Capital Improvements  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Appropriation -----	\$ 410,000.00	
Receipts:		
Forfeitures -----	45.50	
Transferred from Code 66558 -----	13,929.16	
Sale of Timber, Piedmont Research Station -----	2,000.00	
Transferred from Code 28741, State Fair Operations -----	115,000.00	
Disbursements -----	81,944.21	
Unexpended Balance of Appropriation ----	\$ 459,030.45	

**AGRICULTURAL FOUNDATION ASSESSMENT**

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 56,865.98	\$ 56,894.21
Receipts -----	168,734.71	176,020.08
Disbursements -----	169,589.77	176,048.31
Cash Balance—June 30 -----	\$ 56,010.92	\$ 56,865.98

**APPLE ASSESSMENT**

Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 67.13	\$ —0—
Receipts -----	35,581.19	17,667.13
Disbursements -----	35,548.00	17,600.00
Cash Balance—June 30 -----	\$ 100.32	\$ 67.13

**CATTLE ASSESSMENT**

## Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 9,426.14	\$ 9,585.20
Receipts -----	25,727.90	26,340.94
Disbursements -----	25,200.00	26,500.00
Cash Balance—June 30 -----	<u>\$ 9,954.04</u>	<u>\$ 9,426.14</u>

**COTTON ASSESSMENT**

## Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 198.81	\$ 183.42
Receipts -----	7,732.30	14,015.39
Disbursements -----	7,700.00	14,000.00
Cash Balance—June 30 -----	<u>\$ 231.11</u>	<u>\$ 198.81</u>

**EGG ASSESSMENT**

## Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 22,316.25	\$ 4,150.80
Receipts -----	61,495.30	61,165.45
Disbursements -----	78,400.00	43,000.00
Cash Balance—June 30 -----	<u>\$ 5,411.55</u>	<u>\$ 22,316.25</u>

**PEACH ASSESSMENT**

## Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 2,443.66	\$ 511.62
Receipts -----	1,568.63	5,932.04
Disbursements -----	3,000.00	4,000.00
Cash Balance—June 30 -----	<u>\$ 1,012.29</u>	<u>\$ 2,443.66</u>

**PEANUT ASSESSMENT**

## Statement of Changes in Cash Balance

Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 1,026.93	\$ 9,484.50
Receipts -----	64,910.26	76,042.43
Disbursements -----	65,000.00	84,500.00
Cash Balance—June 30 -----	<u>\$ 937.19</u>	<u>\$ 1,026.93</u>



**POULTRY ASSESSMENT**Statement of Changes in Cash Balance  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$	\$ 11,670.48
Receipts -----		
Disbursements -----		11,670.48
Cash Balance—June 30 -----	<u>\$</u>	<u>\$ —0—</u>

**SOYBEAN ASSESSMENT**Statement of Changes in Cash Balance  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 7,765.24	\$
Receipts -----	103,009.97	78,265.24
Disbursements -----	108,700.00	70,500.00
Cash Balance—June 30 -----	<u>\$ 2,075.21</u>	<u>\$ 7,765.24</u>

**SWEET POTATO ASSESSMENT**Statement of Changes in Cash Balance  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 549.85	\$ 215.92
Receipts -----	29,866.21	28,433.93
Disbursements -----	30,200.00	28,100.00
Cash Balance—June 30 -----	<u>\$ 216.06</u>	<u>\$ 549.85</u>

**SWINE ASSESSMENT**Statement of Changes in Cash Balance  
Years Ended June 30, 1968 and June 30, 1967

	1967-68	1966-67
Cash Balance—July 1 -----	\$ 1,353.02	\$ 634.66
Receipts -----	87,907.45	80,218.36
Disbursements -----	87,900.00	79,500.00
Cash Balance—June 30 -----	<u>\$ 1,360.47</u>	<u>\$ 1,353.02</u>

## DIVISION OF CHEMISTRY

DR. E. W. CONSTABLE  
*State Chemist*



The Department of Agriculture is charged with the administration of a variety of control laws among which is a group requiring the application of the science of chemistry for enforcement. The enforcement of this latter group constitutes the work of the Division of Chemistry.

The basic purposes of these laws are to safeguard the health, welfare, and economic interest of consumers, to assure sound and safe products which are informatively and truthfully labeled, to safeguard and promote sound businesses, and to curb spurious and misleading claims and representations, fraud and unscrupulous and destructive competition.

These chemically characterized laws, 14 in number, apply respectively to commercial fertilizers, fertilizer materials, manipulated (processed and packaged) manures and mulches which are fortified with plant food; agricultural liming materials and landplaster; commercial feeds—both the medicated and the non-medicated varieties—for domestic livestock and poultry; canned dog and other pet foods; pesticides—this covering insecticides, rodenticides, herbicides, plant defoliants, repellents and similar materials; the application of pesticides by aircraft; internal combustion (automotive) engine antifreezes; human foods, drugs and cosmetic, bakeries, bottling plants, artificially bleached flour; enrichment of flour, bread and corn meal; oleomargarine; and linseed oils.

The necessity for chemical application in carrying out the purposes of these laws and for evaluating the products covered by them is clearly reflected in the fact that the quality or com-



position of, or the truthfulness of the labeling and guarantee for products such as fertilizer, commercial feeds, pesticides or landplaster cannot be judged alone by look, odor, feel, or taste, where the latter judiciously may be applied. Similarly, the purity of linseed oil or the safety and effectiveness of antifreeze preparations cannot be so judged. Likewise, the adulteration or misbranding of foods, drugs, cosmetics and devices seldom can be judged alone by the human senses.

Among the chief requirements and activities for accomplishing the purposes of these control laws are the registration of products prior to offer for sale, issuing permits and licenses to sell; meeting specific requirements as to guarantees, composition and labeling, including adequate notices, caution and warning, directions for use, and antidotes in case of accidents from products of a highly hazardous nature; prescribing definitions and standards of identity and promulgating rules and regulations where necessary in the interest of consumers; inspecting premises, requiring satisfactory safeguards and sanitation for products for human consumption; collecting official samples for chemical and other analyses to determine compliance, and issuing reports thereon; checking credentials and qualifications for issuance of aerial crop dusting licenses; issuing warnings where deviations develop, embargoing violative products, cancellation of licenses, permits and registrations where defect or default later come to light; and instituting court actions as ultimate circumstances may dictate.

The work for the biennium as carried out under these activities, along with other pertinent information, is given in the following sections.

#### COMMERCIAL, FERTILIZERS, AGRICULTURAL LIMING MATERIALS AND LANDPLASTER

The laws applying to the sale of commercial fertilizers, agricultural liming materials and landplaster are the North Carolina Fertilizer Law, and the North Carolina Lime and Landplaster Law.

In summary, the purpose of these laws are to assure consumers sound and adequate supplies of these materials which are basic to agricultural production in the state, and assure the suppliers of these materials a sound commercial environment

for their production and sale.

In order to determine the status of fertilizers, it is necessary that chemical analyses be made for the content of major plant foods (nitrogen, phosphate, and potash); the secondary plant foods (calcium, magnesium, sulfur, and borax); for chlorine and the acid-base forming qualities; and for the trace elements (boron, manganese, copper, iron, zinc, and molybdenum). For agricultural liming materials, analyses are made for calcium, magnesium, acid-neutralizing value, fineness of particle size and for content of potash in lime-potash mixtures; and for landplaster, its content of calcium sulfate.

Coverage for the biennium was:

Official fertilizer samples .....	18,875
Unofficial samples of fertilizers and materials for farmers .....	18
Official liming materials, lime-potash mixtures and landplaster .....	427
Total .....	19,320

As soon as analytical work was completed, the results were supplied by individual official reports to those manufacturers, dealers, and consumers immediately concerned. All of this work collectively was made available for the public in the annual issue of the "Fertilizer Report".

As indicated by inspections and analyses, the supplies of liming materials and landplaster generally were of standard quality, were in line with the guarantees made for them, and were suitable for agricultural purposes. Deficiencies and defects, few in number, were found, were adjusted as provided by the respective laws.

Old-line fertilizers (dry and ammoniated mixes) were satisfactory with respect to the component material, but the number of deficiencies below guarantee still is of concern. The corporations which of late years have largely taken over fertilizer production appear not yet to have adequately mastered the complex fertilizer manufacturing technology of their predecessors. The nitrogen-solution trade has outgrown much of its new-business difficulty, doubtless due both to broader experience of the manufacturers and distributors and to the improved methods of con-



trol by the Department. These products in general were satisfactorily in line. Producers of liquid mixed fertilizers and of blended fertilizers (products made by the so-called "blending plants" which procure ready-prepared fertilizer materials for dry mixing and usually for bulk sales) are still confronted with problems of non-uniformity of mixtures and deviations from guarantees. As was done in the earlier stages of the nitrogen solution development, the department, with the cooperation of these industries, is in process of adapting control applications to more effectively apply to conditions peculiar to these operations and products and is taking other steps necessary to correct these defects.

### COMMERCIAL FEEDS

Commercial livestock feeds and canned pet foods are subject respectively to the North Carolina Feed Law, and the N. C. Law Regulating Canned Dog Food. Among the requirements for determining compliance with these laws and the payment of inspection fees are registrations, checking of labels, and state-wide inspection and collection of official samples for chemical analysis. The official samples are analyzed chemically, microscopically and by other means to determine the content of crude protein, crude fat, and crude fiber; the presence, identity, and quantity of drugs, growth stimulants and other additives; the presence and condition of ingredients as declared in labeling, of substitutions and adulterants; and compliance with guarantees and standards.

The analytical work now required for the control of feeds as compared to that of earlier years is practically doubled. A large percentage of the feeds currently used contain additives of one kind or another, such as hormones and other growth stimulants, and drugs in both prophylactic and medicinal quantities. The additional analyses required to determine these additives are a specialty within themselves and necessitate facilities and applications different and apart from the usual feed analyses.

In general, the work for the biennium showed that feed standards and quality were on a satisfactory level. As has been the experience over a period of years, a number of deficiencies, deviations from guaranteed composition and other defects occurred. In adjustment of these, the affected consumers who could be identified were reimbursed by penalty payments from the manufacturers, otherwise the payments went into the state treasury.

Other cases were handled by removal of the defective product from the market, for reprocessing or other appropriate disposal as provided by the law.

As rapidly as the analyses were completed, official individual reports were forwarded to those immediately concerned. The work of each year, including all individual analyses and related data, was made available to the public collectively in the annual "Feed Report".

Coverage for the biennium was:

Official feed samples .....	5,537
Unofficial feed samples .....	90
Analyses of above feeds for drugs and other additives (832) .....	—
Total .....	6,459

#### ECONOMIC POISONS

The law applying to economic poisons or pesticides is the N. C. Insecticide, Fungicide and Rodenticide Act. It applies to products such as insecticides, rodenticides, herbicides, fungicides, repellents, plant defoliants and retardants, and related materials for destroying, repelling, or mitigating pests. Similarly as the fertilizer and feed laws, this law has among its requirements the registration of all pesticides before being offered for sale, review of labels for compliance with various requirements such as identity of the product, name and address of the responsible agents, net contents of the respective packages, name and percent of each active ingredient, along with the total percent of inert ingredients, validity of formulations, directions for proper use, cautions against misuse, and first aid applications or antidotes for highly dangerous chemicals. State-wide inspections are required as accessory in checking labeling, registrations, the payment of inspection fees, and for collection of official samples for analysis to determine compliance with guarantees.

Official samples analyzed for the biennium were 3,623.

Results of the work on pesticides showed that standards were well maintained and that generally satisfactory products were delivered to users. As previously observed, however, there still is a persisting tendency of laxity in applying for registrations prior to putting products on sale. Stop-Sale orders as provided by law are placed on all such lots of pesticides since failure to register prior to sale constitutes failure to comply with all re-



quirements of the law. This also results in an inequity to those who do fully comply and causes much additional and unjustifiable work. Manufacturers in general do not appear to be greatly inconvenienced by the stop sale applications since they simply come in with registrations and clear the particular situation.

The pesticide law is the uniform and up-to-date pattern and is generally adequate; however, some addition to curb the laxity referred to would be desirable and beneficial. As a curb to tardy registrations it has been proposed that the registration-inspection fee for such items be increased to a figure which would make prompt attention to this legal requirement economically significant. In due time, proposals for such an amendment to the law will be made.

The result of each year's work, giving collectively all of the results of analyses on samples, and giving results on details of the year's work generally is made available to the public through the annual "Insecticide Report" which is published by the department for that purpose.

#### AERIAL APPLICATION OF PESTICIDES

The application of pesticides by aircraft is subject to the N. C. Aerial Crop-Dusting Law. This law continues to serve effectively in maintaining order in this line of business by curbing unethical practices, irresponsible performances, destructive competition, the wanton disregard of personal and property rights and serves as an ever-ready recourse to deal effectively with any untoward developments. The earlier malpractices of this business had evolved into nuisance proportions which resulted in a concerted move by large numbers of citizens to have the practice outlawed by legislation. The passage and enforcement of the law brought order into this field, fixed responsibility, offered a substitute acceptable to those who would outlaw the activity, and preserved this useful service to the benefit of North Carolina agriculture. The limited number of irregularities encountered were mainly in the area of failure to procure licenses and to provide the required liability insurance for property and persons. These were corrected.

Licenses issued for the biennium were: contractors—79; applicators—152; aircraft—149. Routine inspections were made throughout the active dusting and spraying season for possible failures in compliance with the licensing requirements and to be

on the lookout for unsatisfactory work and other complaints.

Full information on the activities of each season, including the names and addresses of all licensees, was made available to the public by publication in the annual "Insecticide Report".

#### AUTOMOTIVE ANTIFREEZES

All antifreeze compounds for use in the cooling systems of internal combustion engines for motor vehicles or for other uses are subject to the North Carolina Internal Combustion Engine Antifreeze Law.

The basic purposes of this law are assuring owners and operators of motor vehicles adequate supplies of high grade products, relieving ethical manufacturers of unscrupulous competition, keeping spurious products off the North Carolina markets and in relieving North Carolina merchants of entrapment into the liability of dealing in fraudulent and destructive products.

The effectiveness of this law and its administration is pointedly demonstrated by the fact that complaints of malfunctioning, failures and damage to engines and accessories, which annually were numerous prior to the advent of this law, remain now at zero level.

Registrations in North Carolina for the year 1966-67 were 79 brands; for the year 1967-68, 82 brands, these representing a total of 37 manufacturers.

The work for the biennium on these products indicates that the purposes as set forth in the foregoing paragraph have been well maintained. However, as usually is to be expected, there are periodic efforts to get degraded or cheapened products on the North Carolina market, doubtless for competitive advantage or excessive profits. While keeping open every opportunity for improvement or for new and meritorious products, rigid adherence to the high level postulated for these products by the North Carolina law has kept the markets of this state free of unsatisfactory and questionable products and has assured consumers of adequate supplies of quality antifreezes which merit their confidence.

The antifreeze law, unlike the fertilizer and feed laws, does not require the reporting of quantities of antifreezes sold annually in the state. The economic importance, however, of these products is well illustrated in the fact that antifreezes are indispensable to all water-cooled motor vehicles, that each such vehicle



will annually require from one to several gallons of antifreeze, and state registrations show some 2.5 million such vehicles to be in use currently.

In light of these facts, it is understandable that prior to the enactment of an effective antifreeze control law, the damage and destruction caused to automotive equipment by spurious and destructive antifreezes (often requiring the rebuilding or replacement of entire engines, cooling systems, electrical accessories and other parts), was imposing million-dollar losses on motorists of the state.

### FOODS, DRUGS, AND COSMETICS

Foods, drugs, cosmetics, and devices of the therapeutic type are subject to the N. C. Food, Drug and Cosmetic Act, G.S. Chapter 106, Article 12, and the subsidiary laws, N. C. Bottling Plant and Soft Drink Inspection Law, G.S. 106, Article 16; N. C. Sanitary Bakery Inspection Law, G.S. 106, Article 22; N. C. Artificially Bleached Flour Law, G.S. 106, Article 21; N. C. Flour, Bread and Corn Meal Enrichment Act, G.S. 106, Article 21A; and N. C. Oleomargarine Law, G.S. 106, Articles 23 and 24. The first named law is basic and applies generally, whereas, the supplementary laws are individually adapted to features characteristic of the particular products to which they apply.

The basic purposes of these laws are to safeguard the health and welfare of consumers by assuring them of safe, wholesome, economically sound and clearly and honestly labeled supplies of food, drugs, cosmetics, and therapeutic devices; and to support the sound suppliers of the materials and commodities covered by these laws by thwarting unscrupulous and fraudulent operators. Among the basic things which are indispensable in carrying out these purposes are that the products themselves be, or be composed of, sound and wholesome raw materials which are appropriate for the uses intended; that the handling, processing, packaging, and storing be carried out in a sanitary manner fully adequate for public safety; and that the environment, equipment, housing, vehicles and other facilities which in any way make contact or affect the products be maintained and used in a manner so as to preclude any exposure that may result in contamination or have other deleterious effects.

Among the procedures required by these laws for determining compliance are regular, systematic state-wide inspections with written inspection reports; recommendations — written and

verbal — for correcting minor deviations; requiring the correction or discontinuation of operations where there is gross failure in compliance; instructing in the correction of minor defects such as labeling omissions or deviations; placing embargoes on products where there is, or appears to be, question regarding public health and welfare; and, where fitting cooperative procedures prove inadequate, applying other legal remedies as provided by the laws. Summary of these activities for the biennium follow.

### Food Plant Inspections

Bakeries and Doughnut Plants .....	2,472
Bottling Plants .....	974
Other types of plants and storages (processing and packaging meats, pickles, seafood, flour, meal, candy, potato chips, fruits and vegeta- bles, etc. ....	3,480
Total .....	6,926

### Plant Operations Suspended

Bakeries .....	9
Bottling Plants .....	1
Others (as listed in preceding tabulation) .....	4
Total .....	14

### ADULTERATION, MISBRANDING, EMBARGOES

The terms "adulteration" and "misbranding" are defined by the law in such a manner as to give clearance to all items which are in compliance with requirements and to qualify as violative all features which are not in compliance. In the determination of compliance, it is necessary to collect official samples of the subject commodities from all parts of the state for critical examination of labeling and for analysis—chemical, physical, optical, microscopic, and by other appropriate techniques.

The great bulk of foods on the market generally are found to be safe and satisfactory. However, there are always found appreciable quantities which are violative as is reflected in the results of work on some 2,105 samples analyzed and the 334 embargoes placed on questioned products. These represent all



types and classes of foods and beverages such as flour, meal, and numerous other cereal products, meats, vegetables; canned, bottled and frozen products, fruits (fresh and processed), bakery products, sugar, candies, pickles, condiments, salt, seasonings, butter, eggs, shortenings, and numerous others.

Among the violative features found were sub-grade products; spoilage; rusty, leaky, and otherwise damaged containers, exposure to insanitation; contamination with filth, or by insects, rodents, worms, and other vermin; damage due to fires, floods, storms, wrecks and other exposures, and various other sources of adulteration, both inadvertent and intentional. Examples of intentional adulteration are ground hulls in peanut butter and in cocoa, parched cereal in ground coffee, water—the universal adulterant—in oysters, milk, meats, and other foods; starches, gums, gelatin and cereals where purposely used in foods as fillers, and chemical preservatives and artificial colors in and on fresh meats.

A condition to which pointed attention was given was the failure of the refrigerating system of trucks and railroad cars, resulting in the delivery of out-of-condition products. There still is need for more attention to these facilities and to the handling of frozen foods. Too often, handlers of frozen foods fail to recognize the importance of the prompt transfer of frozen foods from refrigerating vehicles to cold storages and vice versa. This also applies to consumers, including those who will permit their groceries and frozen foods to rest in a parked automobile for an extended period of time in hot weather.

Also, particular attention was given to pesticide residues in foods. A number of products, particularly cabbage and collards, had to be discarded because of excess residues. Records of analyses in general, however, show that there is marked improvement in the proper handling of insecticides and in cutting down the quantities of foods in which excessive residues formerly had been found.

A third item of pointed concern was the shipping from the midwest of carloads of grain corn, for use in feeds and other purposes, which had mixed into it certain proportions of seed corn that had been treated with fungicides. This practice should be eliminated at the origin of the mixing operation.

### FIRES, STORMS, FLOODS, WRECKS

A commonly occurring cause of exposure, damage, contamination and spoilage of foods and drugs results from fires, floods, storms and wrecks of various kinds such as railroads, trucks and other vehicles of transportation. The resulting exposure involves human health and welfare. Lack of knowledge of the accompanying danger and the tendency to over-zealous salvaging can result in injury and sickness. This type of exposure, although accidental, constitutes adulteration or exposure to conditions whereby a product may have become adulterated. Therefore, products so exposed are subject to attention and action under the food and drug law.

Health authorities, police, insurance companies and businesses being aware generally of these facts, promptly notify the department of such occurrences and request help. Also, food and drug inspectors, following long established policy, are on the alert for reports of such occurrences and, regardless of hours or day of the week, follow up promptly. All exposed products are placed under blanket embargo. Then follows the process of segregation and classification, the safely salvageable ones being released, the questionable ones sampled and analyzed for further determination, and the obviously unfit ones destroyed. These operations, as provided by law, are carried out under the direction and supervision of department inspectors.

A total of 48 fires involving 29 towns and cities of the state were covered. These occurrences were pretty much in all parts of the state. The losses were estimated at around \$900,000.

### FOOD POISONING

Cases of food poisoning periodically show up, even with the best of efforts to safeguard against it. These cases most often are attributable to staphylococcus bacteria although other organisms at times are involved. The salmonella group is of expanding concern because of its increasing association with this trouble. These cause mild to severe cases of illness and at times hospitalization, but seldom death. Much more serious, but fortunately much rarer is the poisoning from the organism *Clostridium botulinum*. Increased attention is being directed to this area.



Of the several cases of food poisoning which came to the attention of the Division, the one affecting the most people—some sixty or more—occurred from contaminated meat, both in the Charlotte and Greensboro areas. As best that could be determined, the meat in question turned out to be imported. Further checking on meat from this source showed no further contamination. The occurrence appeared to be connected with one particular lot.

Another case of smaller proportion showed up in the Asheville area, due to filling in cake. The susceptibility in certain cake fillings to spoilage in warm weather too often is overlooked. A precaution such as that which is applied to "cream puffs" during the summer months, (permitting their sale only under continuous refrigeration), would be a safeguard with such products as cake fillings. A surer remedy which is followed by some producers is to discontinue this type of product in summer weather.

During the biennium, less of this trouble came to the attention of the department than had been the case in past years. Doubtless it is too much to hope that full freedom from this trouble may be realized. However, it is encouraging to see it diminish even for a two year period, and it is to be hoped that people are becoming better educated in such matters.

### DRUGS

Work on drugs, in part, has already been referred to in an earlier section on Fires, Floods, Storms, and Wrecks. In these catastrophes drugs often are exposed. The salvaging of drugs, because of their highly critical nature, is always suspect, therefore, in all except the most favorable circumstances, drugs so exposed are destroyed.

Another situation to which the Division gives special attention is the tendency to overlook removal from sale of out-of-date drugs, particularly biologics and vaccines. This applies mostly to veterinary items sold in general stores. It is largely due to oversight on the part of store operators and failure to realize that potency will diminish with over-age. During the biennium some 115 embargoes were placed on such products. These were removed from sale and disposed of as provided by law. Store operators, when advised of the significance involved, were fully

cooperative in making correction.

Among other activities was cooperation with Federal authorities in dealing with recall of drugs which, after being put on the market, were found to be questionable or defective in some respects. The Division, in order to prevent possible harm, is particularly attentive to this type of thing. Another item differing from situations cited in earlier reports, no fraudulent promotion of bogus drugs has come to the attention of the Division during the 1966-1968 biennium.

In an earlier report, reference was made to one product then on the market, Allergimist, which was broadly advertised and claimed to be a cure for asthma and allergies. Obviously, if there were a proven remedy for asthma, it would meet with the same welcome and world acceptance as did such drugs as sulfanilamide, penicillin and polio vaccine. There would be no occasion for its underground marketing. The above referred to fraudulent product was placed under state embargo wherever found on sale and later destroyed. Terminal to a pending court action in that case which was cited in earlier report, no further sale of this bogus product anywhere in this area has come to the attention of this department. The erstwhile purveyors of the product, having skipped bail and absconded from this country, are now operating in a foreign country.

Characteristic of all these drug activities is the full cooperation with various other agencies concerned in such matters, these including health departments, other law enforcement agencies, the North Carolina Board of Pharmacy, the U. S. Food and Drug Administration and others.



## CREDIT UNION DIVISION

W. V. DIDAWICK

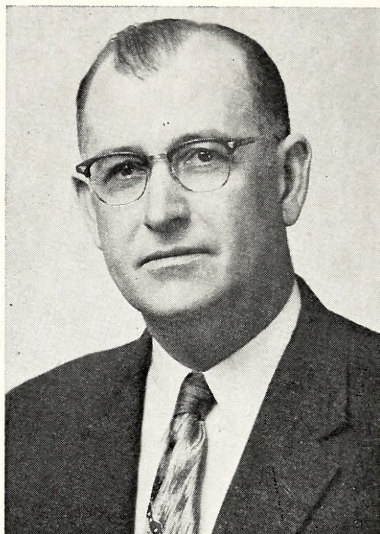
*Administrator*

This division administers the laws and regulations governing state-chartered credit unions throughout the state. Subchapter III of Chapter 54 of the General Statutes places the responsibility for chartering, examining, and supervising on this division, which operates entirely on fees paid to the state by the various credit unions. The law provides for a scale of fees based on a credit union's assets.

Credit unions serve to provide specific groups of people with a convenient place to accumulate their savings as well as a source of credit at a reasonable interest rate. Only about four percent of the adult population of North Carolina has access to credit union service, and we know that the majority of these people also deal with other financial institutions regularly.

However, credit union membership is made up of individuals in high income brackets as well as those in the low bracket, and each plays a part essential to the economic life of its community. Acceptance and custody of a depositor's funds impose a public trust and responsibility not generally associated with other business activities. Because of this public interest in depositor protection, credit unions are subjected to governmental supervision and regulation, including periodic surprise examinations by supervisory agency examiners.

As already indicated, the primary responsibility of the Credit Union Division is to protect the interest of depositors. The examinations conducted by this division, therefore, are directed to a determination of the credit union's solvency, the degree of competence of its management, and its compliance with the laws



under which it operates.

While credit union laws provide broad examination powers, it is only in unusual circumstances that the supervisory examiners would extend the scope of their examinations to what might even approach that of an audit made in accordance with generally accepted auditing standards. This is, of course, appropriate in view of the purposes of these examinations. The law provides that the supervisory committee of each credit union shall make, or have made, a thorough annual audit of its receipts, disbursements, income, assets and liabilities, including a verification of members' accounts.

Employee credit unions are growing in popularity. A recent Administrative Management Society survey shows that approximately 75 percent of industrial firms have a functioning credit union.

Why the popularity of an institution that, in some cases, requires an extra employee or two simply to keep it going? Reasons most often cited are that a company credit union helps keep employees from borrowing from high-interest money lenders; that it diminishes the amount of entanglements with bill collectors; and that it decreases the amount of company loans. A majority of the companies also indicate that their credit unions improve employee morale and employer-employee relations to a great extent, and 50 percent of the firms further state that the credit union is a factor in reducing employee turnover.

The over-all operation and financial condition of state-chartered credit unions remain good. They have been fortunate during the past biennium in being able to retain their working capital in spite of the high dividend rates advertised by other financial institutions. However, they are now faced with the problem of being able to keep their capital at work because of the increased number of credit cards in use which provide the customer with ready cash for most anything that he wants. These financial problems have been handled by credit unions in an excellent manner, as our statistical report shows a 33 percent increase in total assets, a 35 percent increase in shares, and a 30 percent increase in outstanding loans during this biennium. The real test of credit union efficiency and know-how will come, if and when the Vietnam war ends, because of the many changes in the financial world that are sure to take place with the end of this conflict.



NUMBER, MEMBERSHIP, AND ASSETS  
OF STATE-CHARTERED CREDIT UNIONS

	<i>June 30, 1966</i>	<i>June 30, 1968</i>
Active Credit Unions .....	201	216
Total Members .....	128,686	161,357
Total Assets .....	\$67,430,389.80	\$89,103,383.88

NORTH CAROLINA CREDIT UNIONS  
CONSOLIDATED BALANCE SHEET

**Assets**

	<i>June 30, 1966</i>	<i>June 30, 1968</i>
Cash on Hand and in Banks ...	\$ 2,813,461.00	\$ 4,278,725.90
Loans to Members .....	54,207,113.54	70,436,822.38
Investments and Bonds .....	9,577,548.08	13,043,603.39
Other Assets .....	832,267.18	1,344,232.21
	<hr/>	<hr/>
Totals .....	\$67,430,389.80	\$89,103,383.88

**Liabilities**

Shares .....	\$55,898,916.04	\$75,291,298.01
Deposits .....	2,181,172.40	2,565,105.83
Reserves .....	3,539,816.07	4,593,299.04
Undivided Earnings & Surplus	3,184,204.84	4,078,472.01
Other Liabilities .....	2,626,280.45	2,575,208.99
	<hr/>	<hr/>
Totals .....	\$67,430,389.80	\$89,103,383.88

## DAIRY DIVISION

LEONARD F. BLANTON

*Director*



The Dairy Division is responsible for administration of the laws and regulations covering the production, processing, and marketing of milk and dairy products. This regulatory program protects the consuming public by insuring that all dairy products manufactured or sold in North Carolina are pure and wholesome.

Extensive facilities for the analysis of dairy products are maintained at the central laboratory in Raleigh. Three field laboratories are located in other parts of the state to provide for routine analysis of milk and

dairy products in these areas without delay.

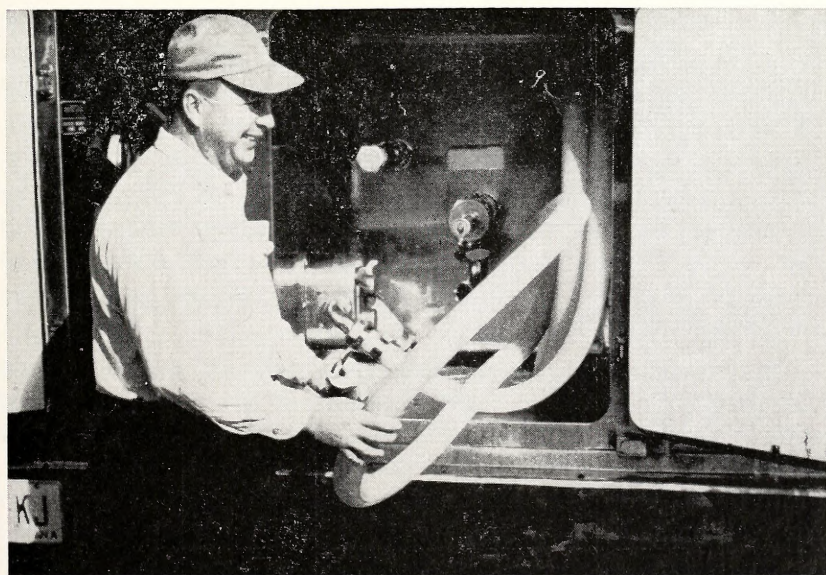
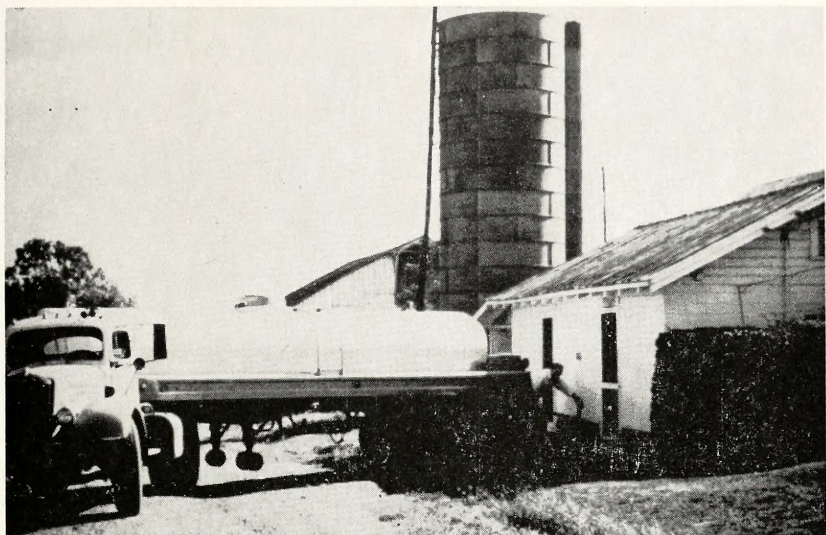
### BUTTERFAT SAMPLING AND TESTING

This phase of the regulatory program insures "fair play" between the dairy farmer and the dairy processing plant. For the protection of both buyer and seller, all milk samplers and testers are licensed, and their work is under constant supervision by the Dairy Division. There are presently 267 licensed samplers (mostly tank truck drivers who sample and measure milk when they pump it from the farm tank to the truck) and 82 licensed testers (laboratory technicians who test the butterfat content of the farmers' milk to determine the price he receives for it).

Check tests totalled 19,772 in 1967, (eight of which were ordered changed). These changes resulted in \$275.69 additional income to the milk producers.

As a dairy farmer increases the size of his herd, often a second or third bulk tank must be added to provide cooling and storage





Milk begins its journey from farm to plant as a licensed sampler prepares to load his tank truck.

for the increase milk production. Dairy plants are now required to maintain separate composite samples for each tank in order that an accurate butterfat test will be used in paying for the milk from each tank. This sampling system has eliminated the errors of the practice of combining samples from two or more tanks to arrive at a single pay test.

### ICE CREAM AND FROZEN DESSERTS

Wholesale ice cream manufacturing plants continue to grow larger in size and fewer in number. Twenty years ago there were 73 plants in North Carolina that manufactured ice cream. Now there are only 26 plants in the state licensed by the Dairy Division as ice cream manufacturers. As marketing programs cross more and more state lines, frozen desserts are now distributed in North Carolina from 28 plants in other states. One dairy store in North Carolina sells ice cream manufactured in Chicago, Illinois.

The number of retail soft serve and milk shake operations continue to increase each year, and their supervision now requires well over fifty percent of the inspection and laboratory work load. Currently there are 398 dispenser milk shake operations and 383 soft serve freezer operations licensed and under surveillance of this division. During the biennium, 3,271 of these operations were inspected.

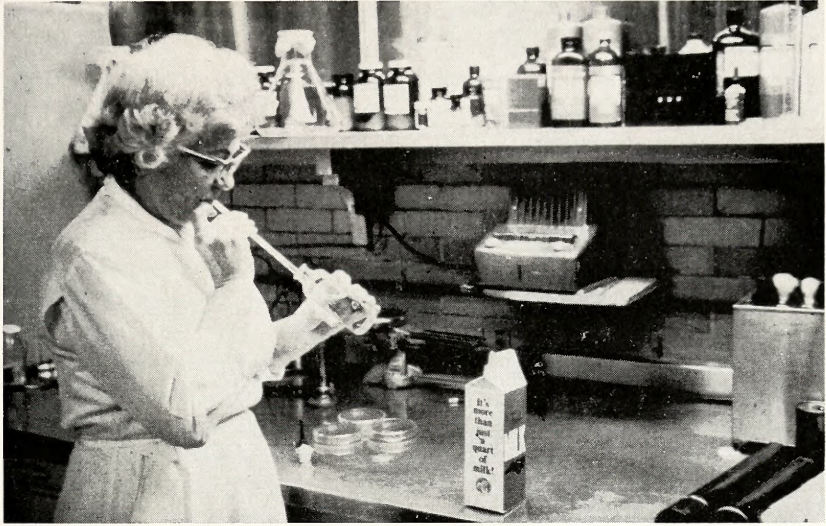
Several owners of retail establishments have been required to appear at hearings to determine whether they should be allowed to continue serving frozen desserts to the public. One operation was closed permanently, and several others have been ordered closed for short periods of time in order to enforce standards of sanitation and quality.

On two occasions members of this division have conducted cleaning and sanitation clinics at meetings of unit managers of retail frozen dessert establishments. Efforts will be continued to improve the effectiveness of the frozen dessert inspection program by bringing together management and supervisory groups for training.

### MILK IMPORTS

During 1967, a little over 4,000,000 pounds of milk flowed into North Carolina from other states, some from as far away as





**Quality of dairy products is assured as a technician begins a bacteriological analysis in a dairy plant laboratory.**

Iowa and Wisconsin. Temporary permits were issued to 19 out-of-state shippers who supplied milk to 18 plants in the state during periods of short supply.

Under provisions of the Milk and Cream Import Law, each out-of-state shipper is cleared for compliance with North Carolina's requirements for milk quality and sanitary conditions of production. Reciprocal agreements are made with other states where possible to eliminate duplication of inspection and unnecessary travel.

#### PESTICIDES

During the biennium, the detection of pesticides in milk or milk products has been rare. On one farm a pesticide was accidentally mixed into the feed, resulting in a loss of 24 animals within the following day. Milk samples from the remaining 38 cows in that herd are tested periodically at the central laboratory to determine whether the level of pesticide has been reduced enough to allow them to return to the milking herd. This division has worked closely with the owner of this herd to assist him in properly disposing of his milk and determining which animals are free from traces of pesticide. It is expected that some of these animals will require nearly two years to reduce the level of residue to the point that their milk will be acceptable for sale.

## REGULATIONS

During 1967, definitions for chocolate flavored milk and chocolate flavored lowfat milk were approved by the Board of Agriculture. The definitions for half and half and for creamed cottage cheese were amended to allow the use of certain food additives.

As the dairy industry slowly changes from production orientation to market orientation, it becomes apparent that consumer desire cannot be legislated. Competition in the market place demands new product development, and more freedom of movement across state lines must be facilitated.

Recognizing these factors, a study committee with membership from all segments of the dairy industry has been appointed by Commissioner Graham to revise the "Rules, Regulations, Definitions and Standards of the Dairy Division." Most of our surrounding states and many local government units within the state have adopted the U. S. Public Health Milk Ordinance and Code. Recognizing that as much uniformity as practicable is in the best interests of both the dairy industry and consumers, the committee is endorsing regulations in conformity with the Code, with few exceptions. The committee hopes to have regulations ready for presentation to the Board of Agriculture during the fall or winter.

### Statistical Report (1966-1968)

Butterfat check tests .....	43,933
Plant investigations (butterfat check testing).....	479
Butterfat tests for Milk Commission.....	668
Butterfat check tests for Federal Lunch Room Program.....	151
Finished milk products analyzed.....	3,555
Ice cream and frozen dessert samples analyzed.....	14,777
Cryoscopic determinations .....	2,622
Pesticide assays made .....	402
Milk Testers licensed .....	82
Milk Samplers licensed .....	267
Plant laboratory inspections .....	154
Ice cream and dispenser milk shake machines inspected.....	3,271
Ice cream plant inspections—wholesale .....	308
Dispenser milk shake and soft serve operations closed for non-compliance .....	41
Gallons of milk embargoed .....	6,620
Gallons of ice cream and mix embargoed .....	240
Out-of-state shippers issued temporary permits to ship milk into North Carolina .....	19
North Carolina plants received milk from out-of-state sources.....	18



## DIVISION OF ENTOMOLOGY

GEORGE D. JONES

*Director*

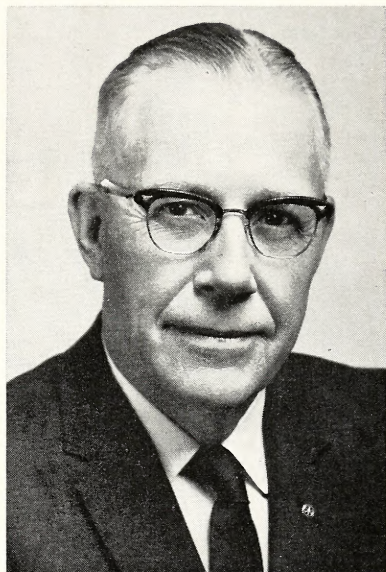
The Division of Entomology administers the State Plant Pest Law and Regulations, the Vegetable Plant Law, and the State Bee Disease Law. It is the purpose of these laws and regulations to protect not only agricultural producers, but also consumers and the public in general.

In performing its duties the division must concern itself with those pest problems which may be introduced, or may be found or recognized for the first time and, through regulations, eradicate or at least suppress the spread and losses until the problem can be solved or until methods of control can be found.

During the past biennium the sweet potato weevil was found in our state and with an outstanding joint effort of industry, growers and other state and federal officials working together, the problem appears to be well along toward complete eradication. The industry and consuming public have reason to be proud of this excellent team effort.

The work of the division is divided into five main types: (1) Survey and detection of harmful plant pests which include insects, diseases, nematodes, mites and noxious weeds, such as the witchweed, a plant parasite which has become established in our state and which is known in the world only in the Eastern Hemisphere; (2) control; (3) regulatory; (4) inspections; and (5) collection and identification.

The division works jointly with other state agencies in health, stream pollution and water resources, and N. C. State University officials in an effort to help all citizens to use pesticides and agri-



cultural chemicals safely and properly according to recommendations. The control of the many pests and plant diseases which can affect our agriculture is a must and cannot be neglected if our state is to move ahead and do its part in producing to meet world food requirements at present and in the immediate future.

Surveys must constantly be maintained for determining the presence and location of new, recently introduced, or dangerous plant pests. Present day food requirements in the world cannot be met without effective quarantine and control of the many plant pests.

There is little doubt but that the honey bee would be lost for pollination purposes without bee disease control, or that our state economy would soon be bankrupt if the dangerous pests were not eradicated or kept under control. North Carolina nurserymen, food processors and handlers of agricultural production from our farms and forests could not ship or move products within our state or across state lines if it were not for proper certification.

#### INSPECTION AND REGULATION OF PLANT PRODUCTS, ORNAMENTALS, TREES, SOIL

The movement of plants and soil from one location to another is one of the main means of spreading plant pests. To prevent the rapid long distance spread of pests by this means the nursery regulations require that all plant nurseries be inspected and their stock found apparently free of pests and diseases before they are certified and allowed to ship their plants. Persons who are not growers, but who collect and deal in nursery stock, are required to obtain a nursery dealers certificate. This certificate is issued only after dealers sign an affidavit that they will deal only in certified nursery stock.

The certified nurseries and registered dealers for the biennium are as follows:

	1966-67	1967-68
Nurseries .....	1,141	1,181
Dealers .....	753	723

The movement of native plants collected from the mountain areas is a multi-million dollar industry. These plants are collected from the entire mountain area and must be inspected and certified as pest free before they can legally enter other states.





Tabacca plant in foreground is infected by a severe strain of patata virus Y. Evidence indicates that this virus was brought into North Carolina an tamata transplants and spread to tobacco by means of aphids. The Division of Entamalogy is attempting to prevent the impartation of such pests into North Carolina.



A total of 800,000 plants were inspected and certified for shipment during the biennium. The new inspection station near Linville in Avery County, which has personnel available every day in the week, has proved to be a valuable service for the industry. Approximately 10% of these plants were shipped into non-Japanese beetle areas, mostly to the west, requiring that the root system be dipped into an insecticide before shipment.

European corn borer certifications were issued on mum and gladiolus cut flowers for shipment into non-European corn borer states. Some 350,000 dozen gladiolus (in 10,000 hampers) and 100,000 dozen mums were inspected and certified as apparently free from hazardous pests or diseases for shipment into 20 states in the northeast, southeast and mid-west.

#### SURVEY—INSECT COLLECTION AND IDENTIFICATION

The Entomology Division has in its care one of the finest insect collections in the nation. Over three million specimens, representing 18,000 different kinds of insects, are housed in modern up-to-date pest proof cabinets. The collection has been built up over a period of more than 60 years, and it is supplied almost daily with additions.

The insect identification is an important service rendered to people over the entire state. The insect collection is an invaluable reservoir of information on insects of North Carolina, and is constantly being used by specialists throughout the state and nation. There is close cooperation among entomologists of the U. S. National Museum and other state entomological agencies in insect identification and other data. Approximately 5,000 insect specimens per year are identified from persons from over the state.

Several hundred plant disease specimens are diagnosed and numerous species of plant specimens are identified for interested persons. The work of the division includes as pests not only insects and near relatives such as snails, but also nematodes, virus diseases and plant parasites such as the witchweed.

Numerous surveys are made to keep a constant watch for new and introduced pests. Many of these pests that may enter this country are studied and searched for particularly along the coastal areas. Through insect surveys entomologists can ascertain the limits of infestation of introduced pests and hence start



control measures while the area is small.

Many insect specimens obtained through surveys are added to the collection for identification and future reference. Federal entomologists from Washington frequently have occasion to consult the collection and records. From time to time memorial collections of insects are deposited to our care. During the past year an insect collection of considerable size was deposited by the family of Dr. Elliott Maynard of Syracuse University, New York.

An experienced and well trained entomologist has charge of the collection and he and the other highly trained staff members insure proper care and classification of specimens.

Growth of the collection during the past 15 years makes it apparent that more space is urgently needed to house this valuable insect and arthropod collection.

A scientific publication "Third Supplement To The Insects of North Carolina" has just come off the press which brings up-to-date scientific information on insects in North Carolina accumulated during the last 15 years.

HONEY AND BEE INDUSTRY

There are some 213,000 colonies of bees in North Carolina that normally produce some \$2,500,000 worth of honey and beeswax and contribute some \$15,000,000 worth of pollinating services to our agriculture. The Entomology Division is responsible for protecting this important industry from losses due to poisonings, bee diseases, etc.

The division employs two seasonal inspectors who inspect for, and aid in the control of, several destructive and contagious bee diseases as well as certify bee movement for pollination purposes. One of these inspectors is assigned to eastern North Carolina and the other to western North Carolina. The most serious bee disease is a bacterial disease of the larvae called American Foulbrood. The number of colonies inspected and the amount of American Foulbrood found and controlled during the biennium is as follows:

	1966-67	1967-68
Colonies Inspected .....	10,081	8,544
Colonies with American Foulbrood.....	207	52
Percent American Foulbrood.....	2.07%	0.61%

Certificates of freedom from disease were issued to 48 beekeepers. This certification is required for selling queens and package bees or to move bees across state lines.

### EXPORT AND IMPORT INSPECTIONS

The division has issued phytosanitary (pest free) certificates for the export of a wide range of agricultural products. Tobacco, cottonseed, corn, cantaloupes, peanuts, orchids, lilies and peach budwood are among the items that were exported during the last biennium.

Import permits were granted to import for scientific purposes fungi, nematodes, slubs, soil and insects. Post entry quarantines and inspections were made on bulbs and certain ornamental root plants. Our inspectors cooperated with USDA port inspection officials in inspecting imported materials for pests such as the Khapra beetle, Formosan termite and certain snail species which may be brought in on military or other equipment or articles of commerce being transported.

### WITCHWEED (*Striga lutea*)

The Entomology Division has cooperated with the U. S. Department of Agriculture Plant Pest Control Division in the suppression and control of witchweed since its discovery, for the first time in the western hemisphere, in 1956 at Evergreen, North Carolina. Witchweed is a destructive pest of corn and is considered a threat to the corn crop in the United States. It is extremely important that the joint effort with USDA Plant Pest Control officials prevent its spread into other corn growing areas from its present infestations in the Carolinas.

The results of the program today are encouraging. The number of new farms found infested has decreased every year from a high of 2,184 in 1958 to a low of 355 in 1967. The pest was not found in any new county during the past biennium. Fumigating isolated and very small known infested sites with brozone has decreased the total size of the infested area; however, constant vigilance and numerous surveys must be done each season. A total of 271,551 acres on 10,720 farms in North Carolina and in some 24 counties have been found infested with witchweed since its discovery in 1956.



## IMPORTED FIRE ANT

*(Solenopsis saevissima richteri—Forel)*

The imported fire ant still has a foothold in North Carolina. Since it was first discovered in North Carolina in 1952, we have systematically treated with pesticide and destroyed all known fire ant mounds in our state. In spite of these treatments we continue to find a few additional mounds each year. Reports from research by the USDA and other southern states conclude that eradication of the imported fire ant with mirex bait is biologically sound, practical and economically justifiable. In view of this, we plan to continue our program of survey and treating known infested areas with mirex in anticipation of a future all out eradication program.

In the fall of 1966, the second application of mirex bait was made on 240,000 acres in Carteret, Craven, Onslow, Pamlico and Brunswick counties. In 1967, two applications, at the rate of 1.25 pounds per acre, of mirex bait, one in the spring and one in the fall, were made on 159,800 acres in Carteret, Craven and Onslow counties, 11,840 acres in Brunswick county and 11,622 acres in Pamlico county. In the spring of 1968, the first application of mirex bait, at the rate of 1.25 pounds per acre, was made on 19,800 acres in Carteret, Craven and Onslow counties.

Mirex bait is an insecticide that is specific to ants and is harmless to humans, livestock, wildlife, etc. Wildlife, health and civil authorities were notified prior to each application of the bait and its effect on organisms other than fire ants were carefully monitored.

A study was made in an attempt to ascertain whether the imported fire ant had reached its northern limit of spread in North Carolina. It was concluded that the fire ant could thrive and multiply at least as far north as Washington, D. C., and is a serious threat to the entire state of North Carolina except possibly our high mountain areas.

## WHITE-FRINGED BEETLE

*(Graphognathus Sp.)*

The white-fringed beetle is considered to be an extremely dangerous plant pest. No new counties were found infested with white-fringed beetle during the biennium; however, 10,713 additional acres were found to be infected in the 40 North Caro-

lina counties that are known to have white-fringed beetle infestations. Surveys were made for the presence of the beetle on 27,744 properties and 6,719 acres were treated with pesticide to control or eradicate the beetle. This work is done in cooperation with the USDA Plant Pest Control Division.

The white-fringed beetle caused damage to tobacco in Wake county and to soybeans in Union and Anson counties during the biennium. It appears that the economic damage caused by the white-fringed beetle will increase in the future as larger acreages become infested and farmers discontinue the use of long residual soil insecticides. Further survey will very likely turn up many additional acres that are infested by this pest.

Work is in progress to determine the effectiveness of malathion and other pesticides in the control of this pest. Restrictions on the use of dieldrin and other long residual soil insecticides have limited our control efforts and have precluded any hope of eradicating this pest from North Carolina. We plan to slow or stop its spread through a vigorous survey, control and regulatory program.

#### SOYBEAN CYST NEMATODE (*Heterodera glycines* Ichinohe)

The soybean cyst nematode was first discovered in the western hemisphere in 1954 at Castle Hayne, North Carolina. Since that time it has been found in Arkansas, Florida, Louisiana, Mississippi, Missouri, Virginia, Tennessee, Kentucky, Illinois and Indiana. It is known to be present in 18 North Carolina counties on a total of 20,556 acres. Taking crop rotation into account, some 1,600,000 acres of land in North Carolina are utilized for soybeans. This means that about 1.25 percent of our \$57,000,000 industry is subject to damage by this pest.

The Entomology Division cooperates with the USDA Plant Pest Control Division in slowing the spread of this pest to the remainder of the state and the other 98 percent of our soybean land. Prevention of long-distance spread to other non-infested soybean areas through certification of equipment and processing of crop in the infested area is a part of the program also.

The division has a trained nematologist working on this pest and is cooperating with the several interested agencies in an effort to control and suppress it.



A resistant soybean variety, Pickett, has been developed for use by growers; and crop rotation to prevent soybeans following soybeans year after year are important control suggestions.

### Soybean Cyst Nematode Infestations

County	Properties	Acres
Brunswick .....	3	94
Camden .....	11	667
Carteret .....	21	1,374
Chowan .....	1	40
Craven .....	8	336
Currituck .....	28	1,543
Gates .....	42	2,131
Johnston .....	152	3,101
Jones .....	2	315
New Hanover .....	95	2,555
Pamlico .....	1	20
Pasquotank .....	46	2,402
Pender .....	62	3,943
Perquimans .....	5	220
Sampson .....	41	1,166
Tyrrell .....	8	523
Wayne .....	7	126
Edgecombe .....	1	1
	<hr/> 534	<hr/> 20,557

### OTHER NEMATODES

Narcissus eelworm (*Ditylenchus dipsaci* Kurhn) inspections and certifications were continued with eight growers in 1967 and five growers in 1968 being certified as to freedom from this pest. The survey of nematodes in North Carolina nurseries is continuing and studies are under way to determine methods of treating nursery stock to make it certifiable as nematode-free.

We continued our cooperative work with research in an effort to learn more about the entire genus *Heterodera* (cyst forming nematodes) and their threat to our agriculture. The golden nematode escaped from quarantine in Long Island, New York, and is now believed to be more of a threat to our Irish potato areas than at any time since it was found in potato growing areas in up-state New York.

## PEANUT STUNT VIRUS

*Arachis hypogaea*

The peanut stunt virus is a relatively new disease that was first observed in North Carolina in 1964. Losses due to this disease have varied from 90 percent to negligible. Because of this disease, Alabama, Georgia and Oklahoma have placed an embargo on our seed peanuts, and Florida has placed a quarantine on them.

Much has been learned about this disease during the last biennium. It has been shown to live in several species of at least five plant families and has been found widespread in white clover, beans and peanuts in North Carolina. The disease has been found in peanuts or host plants in Virginia, North Carolina, South Carolina and Tennessee.

Survey work has revealed that as a rule when the organism is in peanut fields, the more heavily affected plants were adjoining, or at least near, areas where white clover was growing. Indications are that the primary source of infection to peanuts was by means of insect transmittal from clover to peanuts. It has been demonstrated that at least three species of aphids can transmit this disease. The possibility of seed transmittal seems very slight; however, the division has provided an inspection and certification service for those who need a statement as to relative freedom from disease to qualify their seed for shipment to other countries.

Some 5,000 acres of possible seed peanut sources were inspected for this disease and over 20,000 acres of peanuts, beans, and clover were surveyed for this disease during the biennium.

## &gt; CEREAL LEAF BEETLE

The cereal leaf beetle, *Qulema melanopa*, which has been a serious pest of small grains in southern Europe and Asia for many years, was first found in the United States in Michigan in 1962. It has subsequently spread into five adjoining states and Ontario, Canada.

The Entomology Division is cooperating with the infested states and the USDA Plant Pest Control Division in an attempt to prevent its long distance spread. Hay and small grain from the infested states has been regularly checked for proper certification and/or fumigation treatments on arrival in North Caro-



lina. Surveys for the pest have been made around riding stables, dairies and other areas where hay has been brought in from infested states.

The future trend of this pest is not clear, but indications are that it will gradually spread by natural means. While at the moment oat and other grain crops are most often damaged, corn plants have been attacked. There are records of severe losses to small grains in local spots.

There is no doubt that it poses a threat to the corn belt. North Carolina, with a large corn and grain acreage, must follow the spread of this pest very closely. The Entomology Division plans to use every effort to prevent or at least slow down the spread of this pest into our state.

#### JAPANESE BEETLE

(*Popilla japonica* Newm.)

The Japanese beetle was first found in North Carolina in 1932 and has gradually spread over the state until all counties were found infested and our state quarantine was repealed May 30, 1962. The division no longer regulates within the state movement of articles such as soil, sod, plants with roots, and uncured bulbs, but cooperates with the USDA Plant Pest Control Division in seeing that our citizens move articles regulated under the federal interstate Japanese beetle quarantine with a minimum of inconvenience.

The division cooperates in inspecting and certifying nurseries as free from Japanese beetle, supervising the treatment of infested nurseries or plants from infested nurseries with approved pesticides, and provides inspectors to man bean and cabbage inspection and fumigation stations at Asheville, Boone, Hendersonville and West Jefferson to certify freedom of the pest on materials moving into uninfested areas.

The division is cooperating in an advisory capacity in efforts to control this beetle through the use of pesticides, parasites and other biological controls such as the use of milky disease.

#### VEGETABLE PLANT INSPECTION

The sweet potato weevil emergency forced a sharp reduction in vegetable plant inspections in 1967; however, by careful planning, new phases of the work in the mountain vine-ripe to-

mato production program received some attention. In 1968, the following numbers of plants imported from other states were inspected and checked for proper certification:

Cabbage .....	3,446,000 plants
Tomato .....	4,141,000 plants
Onion .....	1,115,000 plants
Pepper .....	188,000 plants

Two major problems involving imported vegetable plants are causing immediate concern. The \$3,000,000 trellis tomato industry in the mountain counties is suffering severe losses due to nematodes and diseases brought in on transplants. We are trying to improve the quality of imported transplants by making very close inspections of the plants on arrival in North Carolina.

Potato virus Y, a new and serious disease in Florida tomatoes and certain other crops, has caused some heavy damage to tobacco in North Carolina. Indications are that the strain of this disease under consideration does not overwinter on any of our perennial weeds in North Carolina but is brought in from Florida on tomato and possibly pepper plants. It is spread from these plants to tobacco by aphids. During the 1968 growing season, potato virus Y has been found in five counties in 20 fields. While our studies on this pest are in the preliminary stages, we feel that it is being brought into North Carolina on tomato and/or pepper plants from southern areas and we are making every effort to see that in the future, only non-infested plants are brought into North Carolina.

#### TRANSIT INSPECTION

The greatly increased movement of plant products by trucks and planes has caused an equal increase in the plant pest control regulatory problems. It is apparent that if we are to stay abreast of the movement of plant pests, we must develop more sophisticated methods of inspection. In order to meet this need the transit inspection program was begun.

In this program, our inspectors are working closely with a USDA Plant Pest Control Division coordinator and the inspectors of other states to maintain surveillance of movement of regulated plant products from origin to destination. Much progress has been made in communications and coordinating inspection



work between states. The division also works closely with USDA Port Plant Quarantine officials and has found two new small infestations, the species of which are believed of African origin, brought in on military equipment. Their spread and development is being followed by careful survey. Also, possible eradication or at least their control is being investigated in cooperative work with N. C. State University specialists.

### PEACH DISEASES

The phony peach disease is highly destructive to peaches in the states to the south of North Carolina. In the past, it has been found in a few trees in Polk, Rutherford, Gaston, Anson, Hoke and Cumberland counties. North Carolina has no phony peach quarantine at present but cooperates with the uniform quarantines of the other southern states by inspecting for this disease in the peach growing nurseries and their environs. About 500,000 nursery trees were certified as free of phony peach disease during the biennium. Limited surveys were conducted in peach plantings along our southern border.

A bark pitting condition that is of questionable quarantine significance is occurring on some peach trees in North Carolina. We have this new problem under surveillance and will take appropriate action if it develops that it is caused by a disease that should be quarantined or put under regulations.

### SWEET POTATO WEEVIL

(*Cylas formicarius egeantulus* Sum.)

The sweet potato weevil was found established in North Carolina for the first time on March 18, 1967, in Columbus and Robeson counties. The infestations were in seed potatoes stored in warehouses and in plant beds. The infested warehouses and all known infested plant beds fumigated with methyl bromide.

A quarantine was promulgated on April 6, 1967, with four areas in Columbus county and five areas in Robeson county being placed under quarantine. An intensive summer eradication and survey program resulted in the lifting of all the Robeson county quarantines and additional quarantines placed on areas in Columbus, Brunswick and New Hanover counties. A total of 23 one-mile radius areas were under quarantine at the end of the first year of the emergency eradication program.

The eradication program was based on clean-up of infestations, intensive survey for new infestations, closely supervised removal of all sweet potatoes from quarantined areas before the end of freezing weather, and close inspection of seed potatoes and transplants. The prospects for eradication of the weevil from North Carolina look good at the present. No active field infestations were found last fall, and only one sweet potato with weevils in it was found in storage last winter. Our inspectors saw a high percentage of *all* seed sweet potatoes bedded in North Carolina prior to bedding and have made one or more inspections of *all* North Carolina sweet potato plant beds this spring and summer, and no weevils have been found. Over 1,000 plant beds have been surveyed in Columbus county alone for the weevil. Over 150,000 bushels of sweet potatoes from quarantine areas were shipped under limited permit to safe, mostly northern markets. The legislature appropriated \$20,000 to indemnify farmers whose seed sweet potatoes were destroyed under the requirements of the eradication program. Twenty farmers were paid \$12,584 for 6,292 bushels of seed sweet potatoes destroyed.

The success of the sweet potato weevil eradication program is largely due to the cooperation of many concerned groups and agencies that supported the division in an all-out eradication effort. The N. C. Yam Commission, N. C. Yam Association, Entomology and Horticulture Extension Service, Crop Improvement Association, NCDA Markets Division, USDA Plant Pest Control Division, sweet potato dealers, packers and processors, and growers are some of those joining in this program.

#### FOREST AND SHADE TREE PESTS

The Entomology Division is responsible for regulating the movement of serious pests of forest, shade and ornamental trees. Since the USDA lifted the federal white pine blister rust quarantine, the division has sole responsibility for preventing its spread. The movement into North Carolina of currant and gooseberry plants, which are alternate hosts of the blister rust, is regulated. White pines that are moved as living trees are inspected and certified as free from this disease.

There is a growing Christmas tree industry in North Carolina. One of the favorite Christmas trees is the true fir (*Abies* spp.). The balsam wooly aphid (*Chermes piceae* Patz) is a serious pest



of firs in the mountains of North Carolina and is known to be killing old stands in five areas. It threatens our native Fraser fir with extinction. We are working with our nurserymen and Christmas tree growers in an effort to help them grow firs that are free of this pest and which can be certified.

The Dutch elm disease (*Ceratocystis ulmi* Buisman) is present in North Carolina. There is no practical way of preventing the spread of this pest through quarantine methods. The gypsy moth and oak wilt disease are two pests of trees for which division inspectors must inspect and survey.

#### PESTS IN OTHER AND NEARBY STATES

Several insects of world-wide distribution and importance are in the Continental United States but are not in North Carolina. Some of these are the cereal leaf beetle, Khapra beetle, pink boll of cotton, European chafer, and the Mediterranean fruit fly. The division keeps a constant surveillance for these pests and keeps up to date on progress made by cooperating USDA officials and the specific state agencies in the infested states in controlling and quarantining these pests.

#### APPRECIATION

Plant pest control work is of such a nature that cooperation from people in many areas of activity are essential to the success of the program. The division acknowledges and expresses appreciation for the help and cooperation given by other divisions in this department. The Extension Service, research workers and staff at N. C. State University have given fine cooperation in our efforts to control plant pests.

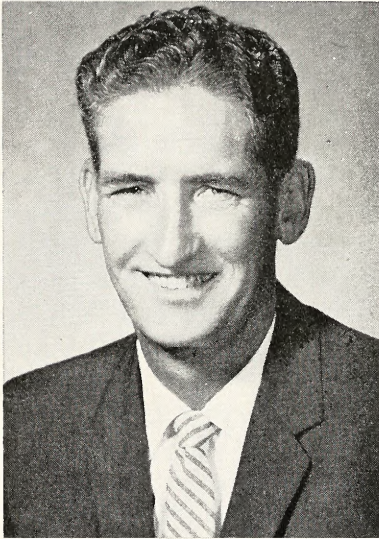
The USDA Plant Pest Control Division and the Plant Quarantine Division have provided cooperative services that are worth millions of dollars to the State of North Carolina.

Public acceptance and cooperation in our efforts to control plant pests has always been at a high level. The progressive attitude of the administration, the cooperation of news media through the guidance of the Publications Division, and public understanding of the need for pest control, has made it possible for our pest control efforts to be a success.

# FARMERS MARKET

CHARLES G. MURRAY

*Market Manager*



The State Farmers Market continues to serve the farmers of North Carolina, the produce industry, and the consumer. Contrary to the rural trend State Farmers Market is growing and more farmers are utilizing the Market each year. For the 1966-67 season, 11,259 farmers and truckers sold on the market; and for the 1967-68 season, these totaled 13,156.

All available space on the Market is rented and plans have been approved for the addition of a cash and carry wholesale warehouse to serve independent merchants. This is a step toward a complete market. The Market is self-supporting and is keeping the physical property in good shape from its own revenue. The Market has built up a cash reserve to pay for the new grocery wholesale warehouse which will be built next in 1969.

In addition to serving the farmers of North Carolina the Market serves as an important pricing complex for people selling to local stores in the area. Our Market is a training ground for new produce farmers who after selling here make valuable contacts and sell direct, bypassing the Market.

The Market continues to serve local produce growers from the coast to the mountains. As the produce supply from the East begins to dwindle an increase in volume from the mountains of western North Carolina is noticed. Our Market moves with the season supplying a radius of 150 miles with approximately \$20,000,000 worth of produce a year.

The wholesale terminal market operates 12 months a year and



carries approximately 85 commodities from every state in the Union. Hawaiian pineapples are quite common here now. We have grapes from South Africa, cabbage from Holland and garlic from Italy. South America and Central America supply us with bananas and other tropical fruits. This past winter (1967-68) we had apples from Argentina. Without this wholesale terminal complex, the stores and the consuming public would not be able to have supplies of fresh fruits and vegetables during the winter season.

Concerning the farmers market phase of the operation, on a typical day in July you would find approximately 125 trucks on the Market selling locally grown produce. This is important to the economy of North Carolina and it gives the local farmer a very good place to sell his vegetables which are usually a side-line crop.

State Farmers Market has continued to grow each year. There is a demand for more wholesale warehouse space. Our facilities are inadequate for the farmers. We need more shed space and more parking space for trucks. With the increase of the number of consumers coming into the Market, there is a definite need for expansion of customer parking. However, we are meeting the demand and will continue to grow.

# FOOD DISTRIBUTION DIVISION

JAY P. DAVIS

*Director*



One hundred forty-two million pounds of food valued at over \$38 million, at wholesale, were received and distributed by the Food Distribution Division during this biennium. Approximately 20 per cent of the population of North Carolina, (1,091,443 persons) received donated commodities through this Division or were served meals prepared by using, in part, commodities secured through the Division.

Under the terms of a cooperative agreement between the North Carolina Department of Agriculture and the United States Department of Agriculture,

we have the responsibility for determining the need for, requisitioning, storing, and transporting USDA Donated Food within the State. This division also is accountable for the handling, use, and distribution of the donated foods to eligible recipients. The foods are acquired by the U. S. Department of Agriculture under its price support, surplus removal, and school lunch programs. Such foods are then made available to the Food Distribution Division for distribution to eligible groups in the state.

The division is responsible for developing and implementing policies, procedures, and regulations covering the operation of the food distribution program within the state. There are, of course, federal laws and regulations within which we must promulgate our operating procedures, rules, and regulations.

Certain specified groups are eligible to participate in the Commodity Distribution Program. We are listing below these groups together with the number of persons served by each one.



(1) School Lunchrooms—non-profit and serving meals to children of high school grade or under .....	843,967 persons
(2) Charitable Institutions .....	50,077 persons
(3) Summer Camps—non-profit, serving children of high school grade or under .....	49,948 persons
(4) Needy Families .....	148,604 persons
<hr/>	
Total Recipients .....	1,092,596 persons

A brief explanation of each of these groups and the type of program involved follows:

**School Lunchrooms**—The large number of school children receiving meals in school each day represents one of the major uses of the USDA Donated Foods. The school lunch program, as such, is a very important part of the federal government farm price support and surplus removal program in that many foods, particularly perishable foods, can be purchased as a price support or surplus removal measure only where definite eligible users, such as school lunchrooms, are available. School lunchrooms benefit in that they receive a supply of wholesome, nutritious, high-quality foods at no cost to the lunchroom. The farmer and producer benefit in that a market is provided for food which the commercial market cannot absorb at a fair price.

In addition to the foods secured under the price support and surplus removal programs, the lunchrooms also are eligible to receive USDA donated foods which are acquired under the National School Lunch Program. Such foods are not acquired specifically for price support reasons but to assist the lunchrooms in providing more adequate low-cost meals for the school children. By using the donated foods, the lunchrooms are thus able to serve balanced lunches for children at a portion of their value. Such prices generally are in the range of 30 to 35 cents for a meal valued at 75 cents to \$1.00.

To meet the standard school lunch program requirement, each school lunch must consist of two ounces of meat or protein substitute, three-fourths of a cup of vegetables, or fruit and vegetable, one-half pint of whole milk, bread and butter or fortified margarine. Use of the donated commodities also enables the lunchroom to serve free meals, or meals at a reduced price, to those children who are unable to pay. We believe that this usage

of government donated foods represents the best use which can be made of such foods.

Since the quantity of USDA donated commodities represents only about one-fourth of the total food requirements for lunchrooms, there is created a very large market for local farmers, processors and businesses. During the past year, the lunchrooms have purchased locally approximately \$30 million worth of food. The support of the lunchroom program by the Department of Agriculture thus actually creates and enlarges a market for the local processor and farmer since the Government food donations represent the backbone of the program and helps keep the lunchrooms financially solvent.

**Charitable Institutions**—Included in this group of recipients are such institutions as state mental hospitals, orphanages, county homes, state sanatoriums, and non-profit child care centers. The non-profit general hospitals also participate in the Commodity Distribution Program and receive commodities based on the number of non-paying patients served.

Use of the donated commodities enables institutions to serve higher-quality meals to the patients than would otherwise be possible. Institutions are required to not reduce food budgets because of the receipt of commodities or to use donated commodities in substitution for foods normally purchased. This requirement assures that the institution will use the donated commodities to enlarge and supplement the regular food program rather than replacing purchased foods with donated commodities.

**Child Development Centers**—(sometimes referred to as head start centers) participate in the distribution of commodities. This phase of the program is growing in size and in importance. We feel that this type of institution meets a very definite need; and, therefore, we put forth special efforts to make food supplies available to such centers so that nutritionally adequate meals can be served to the children in these training centers.

**Summer Camps**—To be eligible to participate in the Commodity Distribution Program, the summer camps must be operating a non-profit food service and serving nutritionally adequate meals to boys and girls of high school grade or under. Included in this group are the 4-H camps, FFA camps, boy and girl scout camps, church camps, and others. We make special efforts to supply donated foods to summer camps at the time and in the quantities needed as we feel that they serve a very worthwhile purpose. Some of the camps operate for only one or two weeks while



others extend their operation to include the entire three summer months.

**Needy Families**—The phase of the Food Distribution Program dealing with the distribution of food to needy families has received increased emphasis during the biennium. This part of the program is administered in cooperation with the boards of county commissioners and the state and county welfare departments. This division has responsibility for overall supervision of the program in the state and establishes policies, procedures, and regulations, publishes handbooks, and disseminates nutritional and other types of information to the cooperating agencies and to the participating families.

Responsibility for initiating and operating the food distribution program in a county rests with the board of county commissioners. Such boards must provide adequate warehouse facilities and personnel for the receipt and distribution of food to the recipient families.

Efforts were made during the biennium to extend the program to every county in the state, and by the end of the biennium there were only seven counties that had not signed an agreement to participate in one of the food programs.

The county department of public welfare, under the supervision of the State Department of Public Welfare, receive the applications and make the determination as to eligibility of the individual families. Our regulations provide that the departments of public welfare shall use the following criteria in determining the eligibility of families:

(1) Families are eligible if they are receiving Public Assistance Payments under one of the following Social Security categories:

- a. Old Age Assistance
- b. Aid to Families With Dependent Children
- c. Aid to the Permanently and Totally Disabled
- d. Aid to the Blind
- e. General County Assistance

(2) Other needy families are eligible if they have an income of less than the following amounts:

Family of one person	\$110. Monthly
Family of two persons	\$140. Monthly
Family of three persons	\$170. Monthly
Etc.	

Included in this latter group are many of the low-income families such as day laborers, part-time workers and other persons engaged in low-paying or part-time work. Seasonal workers, such as those working in the lumbering and pulpwood cutting industries, are very often included in the low-income group.

**Disaster and Emergency Organizations**—The Food Distribution Division has a major responsibility for providing food during disasters resulting from flood, fire, freeze, earthquake, tornado, hurricane, landslide, explosion, or other causes. Victims of such disasters have first priority in the use of USDA donated foods. Our division makes every effort to meet their food needs promptly.

No formal declaration of disaster is required—need is the primary factor in making these foods available for disaster feeding. Since we never know where or when disaster may strike, preparedness is the key to well-coordinated and executed food distribution operations. We have a standing operating procedure for the use of our participating agencies, such as school lunchrooms, institutions, etc., for serving meals to disaster victims using USDA donated foods. The food commodities are available from any one or a combination of sources, depending upon the nature and extent (both as to time and area) of the disaster and the types of programs operating in or near the affected area.

Foods can be made available from school lunchrooms, institution lunchrooms, county warehouses, and the state warehouses. Any commodities donated by the U. S. Department of Agriculture designated for schools or other eligible groups are used for disaster feeding purposes. Arrangements for replacing commodities used during emergency or disaster periods are made with the District Office of the U. S. Department of Agriculture.

The Food Distribution Division is responsible for supplying USDA donated commodities for use of mass feeding of evacuees or to other persons affected by the disaster for the duration of the emergency. Public school sites are most frequently used as evacuation centers, and their lunchroom facilities for mass feeding operations. If necessary, we can release certain commodities to any of several approved disaster organizations, such as the Red Cross.

When families are able to return to their homes to re-establish themselves, commodities are made available through the family distribution program to take care of their needs until commercial



supply channels can be re-opened. If the families continue to be in economic need, they may be able to receive USDA donated food for a post-emergency period of up to 90 days.

If a disaster is of such proportion as to cause a large number of families to be without adequate resources to provide for their food supplies, a regular family distribution program may be established to take care of their needs for an indefinite period. If this is done, then the needy persons must, of course, meet the regular standards of eligibility under the food for needy families program.

Fortunately, we have had no disasters during this biennium. In previous years, we have carried out large-scale disaster programs where hurricanes and tornadoes had caused severe damage and dislocation. While North Carolina has been so fortunate as to have had only minor disasters in recent years, this division stands ready to meet the food needs of our people should such emergencies arise.

**Transportation and Warehousing**—Two methods of transportation are used in the Commodity Distribution Program.

(1) The majority of the commodities for the school lunch-room programs are shipped from the vendor or government storage warehouses directly to strategic points located throughout the state. From these points, distribution is made from the freight car door or truck to the various school units in the immediate and surrounding areas. Each school unit provides a truck for hauling the commodity from the unloading point to the county warehouse and to the individual schools. This method of distribution is used to some extent in the needy families program also, except that only counties in which the unloading point is located are required to furnish transportation.

(2) Other counties are served from our state warehouses at Salisbury and Butner, N. C., with the freight charges being paid by this division. The division maintains state-owned warehouses at Butner, which include a cold storage plant consisting of 1,000 sq. ft. of floor space at 0°F., and a cooler of approximately 3,200 sq. ft. of floor space at a temperature of 35°F. The dry storage warehouse at Butner consist of approximately 18,000 sq. ft. of floor space. It appears that we will need additional storage space; and we have, therefore, made plans to lease another 9,000 sq. ft. of warehouse to add to our Butner warehouse.

At Salisbury, we lease a warehouse of 13,500 sq. ft. of floor space of dry storage. No freezer or cooler space is available for

lease in Salisbury. This presents a considerable problem as we have to use storage facilities in Charlotte to meet our needs for freezer or cooler storage in the Salisbury area.

A third warehouse in the Asheville area is urgently needed—both because of the location and the fact that our warehouse at Salisbury is seriously overloaded and cannot be expanded.

As is indicated, state-owned warehouses do not take care of all of the commodities received. But they are used to receive, assemble, and store foods needed for shipment to the counties which do not receive shipments directly from the vendor or government storage warehouses. The quantity of food moving through the two state warehouses during the biennium was approximately 39 million pounds. We need to expand these warehouses to take care of the growing needs of the program.

In addition to serving the counties participating in the needy families distribution program, the state warehouses also serve to store a reserve supply of commodities needed for the school lunch program. Emergency shipments of reserve supplies of foods are made available to the school lunchrooms throughout the state. This, of course, supplements the regular shipments which are made on a quarterly basis to the schools directly from the vendor and central storage warehouses.

State appropriations pay for the transportation of foods from the state warehouses to county warehouses. However, school units are required to pick up their commodities from the state warehouses or pay shipping charges. We need to change our procedures so that we do not discriminate against the school units, but pay for the warehousing and transportation of commodities used by the school lunchrooms just as we do for those used by the counties in the needy families program.

**Financing**—The Commodity Distribution Program is a joint effort of the federal, state, and county governments, as well as of the individual agencies. The USDA donated commodities are made available to the state without charge, however, all storage in the state, as well as transportation from the unloading points and state warehouses to the counties and individual recipient agencies, must be paid either by the state or by the local agency.

The state funds are used to pay for the rental and operation of the state warehouses and for the transportation of commodities from the state warehouses to the county warehouses. The state also reimburses the county for a portion of the storage and distribution costs incurred in the distribution of commodities to



needy families. Such state funds are distributed to the counties based on the number of persons served in the county. The formula followed in making such payments to the counties is:

First 1,000 persons.....	.24¢ per person per month
Second 1,000 persons.....	.10¢ per person per month
All Over 2,000 persons.....	.06¢ per person per month

The boards of county commissioners use these funds, along with county appropriated funds, to provide adequate warehouse facilities and personnel needed for receiving and distributing food to needy families, institutions, and other recipients.

**Statistical Summary**—To provide information regarding the program in the various counties of the state, we have prepared a statistical summary showing the extent of the Food Distribution Program in each county. The summary also gives an abbreviated look at the Commodity Distribution Program at the state level. This information is given in answer to many inquiries received from members of Congress and from national, state, and county agencies and individuals.

**Plans for Future**—Because of the increasing need for additional storage at county and state facilities, it is anticipated that we will have to increase storage facilities at both levels. The policy, as directed by the U. S. Congress and the Administration, is to make increasing use of our abundant foods to supplement the diets of those segments of our population which are in need of additional food supplies. Definite efforts are being made by the U. S. Department of Agriculture to acquire foods for the program needs rather than waiting for surpluses in government warehouses to develop.

The growing awareness during recent months of the need for supplying wholesome, nutritious foods to improve and maintain the health of our citizens is reflected in plans of the U. S. Department of Agriculture to provide additional kinds and quantities of foods to meet these needs. This Division is, therefore, planning to gear its operating policies, procedures, and actions to help achieve the goal of better nutrition by providing foods where needed. Special emphases are being directed toward meeting the needs of our school-age children—both in and out of school. The needy people, particularly those of advanced years, as well as children in summer camps and child care centers, will receive donated foods in increased quantities to improve their diets and to build strong bodies and minds.

**Summary of USDA Donated Commodities Distributed**  
**1966-68 Biennium**

<i>Recipient Agency</i>	<i>No. of Agencies</i>		<i>No. of Persons Served</i>		<i>Commodities Distributed</i>	
	1966-67	1967-68	1966-67	1967-68	Quantity (lbs.)	Value**
Schools	2,105	2,109	843,967	874,950	***	***
Head Start	409	510	24,640	35,532	75,335,293	\$22,297,948
Institutions	162	165	25,437	25,439	5,232,875	932,839
Summer Camps	106	100	49,948	36,606	310,705	74,875
Needy Families	66	69	147,451*	148,604*	59,880,186	14,739,599
Totals	2,848	2,953	1,091,443	1,121,131	140,759,059	38,045,261

\*Participation Figures are for February 1967 and February 1968.

\*\*Wholesale Except For Needy Families Where Retail Value Is Used.

\*\*\*Includes Schools and Head Start.



**Value of USDA Donated Commodities Distributed**

1966-68 Biennium

<i>County</i>	<i>Schools</i>	<i>*Charitable Institutions</i>	<i>Needy Families</i>	<i>Total</i>
Alamance .....	\$ 467,861	\$ 5,881	\$ 209,414	\$ 683,156
Alexander .....	68,751	—	74,238	142,989
Alleghany .....	42,463	2,243	64,771	109,477
Anson .....	134,227	472	91,866	226,565
Ashe .....	120,640	—	116,017	236,657
Avery .....	70,789	4,509	174,733	250,031
Beaufort .....	181,076	3,009	277,751	461,836
Bertie .....	95,210	742	—	95,952
Bladen .....	155,108	3,004	—	158,112
Brunswick .....	95,473	206	158,483	254,162
Buncombe .....	685,351	42,137	—	727,488
Burke .....	287,787	110,661	87,042	485,490
Cabarrus .....	383,412	16,537	12,974	412,923
Caldwell .....	277,650	2,754	88,631	368,855
Camden .....	29,333	—	83,649	112,982
Carteret .....	127,939	875	77,910	206,724
Caswell .....	88,618	—	—	88,618
Catawba .....	461,181	1,537	—	462,718
Chatham .....	169,845	290	—	170,135
Cherokee .....	85,611	—	125,019	210,630
Chowan .....	64,918	—	—	64,918
Clay .....	29,203	—	67,608	96,811
Cleveland .....	384,726	1,609	—	386,335
Columbus .....	294,277	9,760	316,348	620,385
Craven .....	196,459	820	505,792	703,071
Cumberland .....	797,834	5,585	723,002	1,526,421
Currituck .....	32,199	945	24,794	57,938
Dare .....	27,154	1,697	—	28,851
Davidson .....	463,961	5,866	135,294	605,121
Davie .....	101,285	—	42,399	143,684
Duplin .....	242,235	3,224	—	245,459
Durham .....	502,284	21,831	—	524,115
Edgecombe .....	184,559	351	174,421	359,331
Forsyth .....	710,137	30,674	—	740,811
Franklin .....	115,226	46	—	115,272
Gaston .....	689,325	9,660	376,892	1,075,877

\*Includes Summer Camps and Child Development Centers

<i>County</i>	<i>Schools</i>	<i>*Charitable Institutions</i>	<i>Needy Families</i>	<i>Total</i>
Gates .....	51,350	—	90,238	141,588
Graham .....	39,719	—	55,828	95,547
Granville .....	157,988	87,554	—	245,542
Greene .....	91,105	—	205,154	296,259
Guilford .....	809,062	25,796	591,293	1,426,151
Halifax .....	228,518	—	—	228,518
Harnett .....	256,479	428	2,157	259,064
Haywood .....	222,787	2,941	159,096	384,824
Henderson .....	191,292	11,361	96,437	299,090
Hertford .....	112,110	—	379,234	491,344
Hoke .....	100,985	26,573	224,136	351,694
Hyde .....	27,108	—	155,535	182,643
Iredell .....	329,311	4,237	—	333,548
Jackson .....	94,971	—	112,946	207,917
Johnston .....	327,688	3,554	169,992	501,234
Jones .....	58,125	—	137,268	195,393
Lee .....	158,572	334	—	158,906
Lenoir .....	276,204	75,782	297,098	649,084
Lincoln .....	157,453	—	—	157,453
McDowell .....	157,336	1,986	61,609	220,931
Macon .....	85,069	3,226	102,504	190,799
Madison .....	71,071	—	182,479	253,550
Martin .....	148,280	5,096	—	153,376
Mecklenburg .....	1,083,967	21,503	1,192,217	2,297,687
Mitchell .....	80,646	293	254,917	335,856
Montgomery .....	115,602	—	99,605	215,207
Moore .....	198,788	16,412	—	215,200
Nash .....	297,268	12,195	—	309,463
New Hanover .....	214,706	2,666	25,935	243,307
Northampton .....	139,508	—	—	139,508
Onslow .....	271,744	1,020	297,219	569,983
Orange .....	205,250	15,619	—	220,869
Pamlico .....	38,171	1,533	77,120	116,824
Pasquotank .....	103,789	—	152,155	255,944
Pender .....	96,082	593	23,473	120,148
Perquimans .....	42,285	—	139,158	181,443
Person .....	145,926	—	—	145,926
Pitt .....	282,170	992	278,292	561,454
Polk .....	54,767	189	—	54,956

\*Includes Summer Camps and Child Development Centers



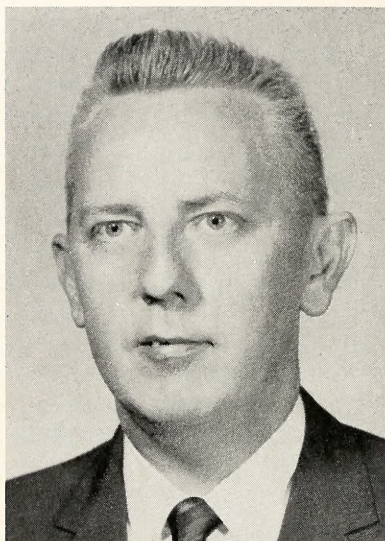
<i>County</i>	<i>Schools</i>	<i>*Charitable Institutions</i>	<i>Needy Families</i>	<i>Total</i>
Randolph .....	334,330	384	—	334,714
Richmond .....	208,455	29,035	113,231	350,721
Robeson .....	508,992	5,018	791,527	1,305,537
Rockingham .....	344,154	1,466	257,338	602,958
Rowan .....	368,756	3,487	185,669	557,912
Rutherford .....	271,717	3,985	123,227	398,929
Sampson .....	309,204	2,128	—	311,332
Scotland .....	170,407	2,317	—	172,724
Stanly .....	212,052	915	—	212,967
Stokes .....	110,896	5,023	32,792	148,711
Surry .....	290,419	28	—	290,447
Swain .....	38,538	364	80,828	119,730
Transylvania .....	86,908	4,331	45,962	137,201
Tyrrell .....	22,977	—	140,564	163,541
Union .....	263,286	2,176	—	265,462
Vance .....	153,186	1,276	367,222	521,684
Wake .....	809,803	106,434	815,797	1,732,034
Warren .....	124,534	—	248,863	373,397
Washington .....	87,293	109	192,190	279,592
Watauga .....	89,649	1,882	141,872	233,403
Wayne .....	437,764	199,932	689,892	1,327,588
Wilkes .....	245,579	924	252,229	498,732
Wilson .....	244,068	9,931	451,585	705,584
Yadkin .....	128,344	40	55,775	184,159
Yancey .....	70,073	—	177,999	248,072
TOTALS .....	\$22,318,743	\$ 989,813	\$14,736,705	\$38,045,261

\*Includes Summer Camps and Child Development Centers

## DIVISION OF MARKETS

CURTIS F. TARLETON

*Director*



What is marketing? Simply stated, it is nothing more than getting the product to the consumer. The simplicity of this process, however, has long since disappeared and in its place has emerged a gigantic and complex system.

Our agricultural marketing system today is so complex and so fast-changing that there are more people engaged in marketing farm products than in producing them.

This, plus the increasing demands for more marketing services as a result of our expanding economy, has increased our total

marketing bill. This, in turn, has had an adverse effect on producers.

Such conditions were perhaps never more true than during the two-year period covered by this report. The often referred to "cost-price squeeze" was more than ever on the farmer during this time and, despite the increased efforts which they put forth to survive this strangling predicament, many of them chose to quit or were forced to quit. Those who survived failed to reap the margins they could have realized when investments, time and uncertainties are considered.

Low prices on numerous commodities were, of course, a factor in this. Over-production, in some instances, also contributed to the narrow profits. But one of the primary reasons was the increased costs the farmer had to pay for those goods and services he had to have in his production and marketing operations.

Despite these adverse conditions, there were many evidences of progress noted in our overall marketing system. First, perhaps, was the obvious awareness of farmers desiring and striving





**North Carolina's exhibit at the American Food Festival in Tokyo, Japan, helped to sell more Tar Heel products.**

to do a more efficient job of marketing. They were more selective in what they produced and more diligent in finishing or preparing their products for marketing.

Secondly, they sought information and assistance with more determination and they used this help as a guide in making their decisions.

Thirdly, they expressed their views and thoughts to decision-making bodies more earnestly and fervently than perhaps in any time past.

From an overall standpoint, many improvements were made in marketing facilities throughout the state during the biennium. New processing plants were built; others were renovated to improve products and increase efficiency. Additional storage facilities were constructed. New practices in handling and packaging products were put into effect in numerous facilities.

The Division of Markets worked diligently to help bring about these improvements. We expanded our efforts to promote our state's farm products. While most of this work was carried on

within the state, we continued to seek new markets in other states.

Our division spearheaded the department's first effort to expand the export of our farm products by preparing an exhibit and manning it during the 17-day American Festival held in Tokyo, Japan, April 5-21, 1968. Approximately \$1,000,000 worth of North Carolina farm products were sold during this event and it is not possible to estimate the value of this endeavor insofar as future sales to Japan are concerned. This activity, as was true of most of our work during the biennium, was conducted in cooperation with other agricultural agencies, farm organizations, commodity associations and others.

We are grateful for the excellent working relations we had with these various groups and we shall strive to see that this continues.

We were fortunate in maintaining a staff of able and dedicated individuals during this two-year period. We were fortunate, too, in that, in most instances, we had adequate resources with which to carry on our work. There were, however, some areas of need to which we were unable to give proper attention and for which we are requesting necessary funds in the forthcoming budget.

Many of the requests for engineering services, which are made to our division, cannot be handled without untimely delays because of the limited time the present staff can devote to drafting plans. To help provide this needed service on a more efficient basis, we are requesting a new position for a Draftsman II.

Demands for additional marketing services by the state's expanding turkey industry cannot be met by our existing staff. We have one specialist who is devoting near full-time to problems in the commercial egg industry and another specialist whose time is having to be devoted to commercial broilers. Our turkey industry is expanding each year and their requests to our division are increasing accordingly. To help meet these demands, we are requesting an additional position, Marketing Specialist III, to devote full-time to the turkey industry.

Other pressing needs include funds with which our mobile trailer, presently being used in an effective manner to promote North Carolina products, can be redesigned and re-equipped from time to time to increase its effectiveness as it is shown throughout the state. We are requesting a nominal sum with which to do this and to permit printing of pertinent literature



for hand-out at the various showings of the mobile unit.

We are also requesting financial assistance to provide for a weekly market news report to livestock interests throughout the state. There is a great need for this information among our producers, packers and others, and we need to fill this void. Similar reports are currently being mailed on poultry and eggs, grain and fruits and vegetables.

A summary of the division's activities during 1966-68 follows:

### LIVESTOCK

#### (Marketing Development)

Livestock and livestock products now comprise one of the major sources of farm income in North Carolina. Livestock enterprises offer great opportunities to farmers in all sections of North Carolina. They fit well into part-time farm operations and provide these, as well as full-time farmers, an excellent means of increasing farm income.

North Carolina is still a deficit state in production of red meat. Beef cattle and hogs are shipped into the state for slaughter. One problem is to maintain a continuous supply of livestock for slaughter. During this biennium the number of hogs imported for slaughter definitely increased. At certain times we had a surplus of fat cattle, but this is usually for a short period of time.

The market service work is aimed at assisting all people involved in marketing livestock and livestock products. For producers this means buying or selling by private treaty or collectively in special pools or sales. For the livestock auction market, it means planning sales, consigning livestock, grading and grouping for sales, contacting buyers and assisting with sales. For packers and processors it means procurement of livestock for slaughter.

During this biennium there was a definite increase in cow and calf production, as well as in stocker and feeder cattle for spring sales and quality feeder steers sold to feeders in the fall. During this biennium, our specialists, working with the North Carolina Cattlemen's Association and Extension livestock specialists, scheduled and supervised 77 special feeder cattle sales, selling 84,042 head of feeder calves, yearling steers and spring stocker cattle for \$11,785,074.43.

Kind of Sale	No. of Sales	No. of Head	Total Dollars
Feeder Calf .....	38	41,392	\$ 5,033,442.99
Yearling Steer .....	17	26,260	4,389,862.59
Spring Stockers .....	22	16,390	2,361,768.85
Totals.....	77	84,042	\$11,785,074.43

The cattle were graded, grouped and sold in uniform lots. The quality and volume of sales attracted buyers from midwestern, northeastern and southeastern points of the United States. The potential for expanding quality feeder cattle production is great.

Specialists also assisted livestock markets with nine special graded feeder cattle sales in which more than 7,000 head were sold. Considerable time and effort was devoted to assisting producers in buying and selling feeder and fat cattle, also in buying purebred bulls for herd sires, emphasis being placed on improving the quality of North Carolina feeder cattle. In addition, assistance was given state purebred cattle associations in conducting their sales, helping grade cattle, contact buyers and organize the sales.

During the biennium there was a shift from dry lot feeding to fattening cattle by feeding grain on grass to reduce the cost of feeding. An increase in this type of feeding looks promising from a profit standpoint.

Two very successful market steer shows were held at the State Fair with the most steers in 1966 and the best quality in 1967. The success of the shows, the quality of the cattle and the packer-buyer support and interest has encouraged North Carolina cattle feeders.

In 1966, three quality graded pig sales were held each month at three locations. At present, there are nine sales held each month at five locations, which reach from Norwood in western North Carolina to Wallace in southeastern North Carolina. In one year's time these sales have grown from 38,303 pigs to 79,574 pigs for a total value in excess of \$1½ million. Swine marketing specialists averaged more than 100 days each year at these sales. This time is well spent, because the prices received for pigs on these sales influence the prices farmers receive for their pigs sold on the farm.



Quality, non-graded, sales are held at Rocky Mount each week and at Dunn twice each month. The Rocky Mount sale, the first quality sale in North Carolina, was established about ten years ago. The numbers have continued to increase on both the graded and non-graded quality sales.

### Quality Graded Sales

Place of Sale	Total Head Marketed During Biennium
Hillsborough .....	30,474
Fayetteville .....	34,519
Greensboro .....	33,434
Wallace .....	17,041
Norwood (One sale per month) .....	2,409
Total .....	117,877

### Non-Graded Sales

Rocky Mount .....	130,531
Dunn .....	39,208
Total .....	169,739

Swine marketing specialists judged at seven North Carolina Junior Livestock Shows in 1967 and assisted at seven other junior shows. Five Junior Livestock Judging Contests were conducted. The effort being spent at these shows is aimed at improving quality of market hogs being produced in North Carolina and in developing hog farmers for the future.

Approximately 85 farmers were assisted in purchasing herd boars and replacement gilts in an effort to improve the quality of feeder pigs being produced in North Carolina. Purebred breeders were assisted in holding 12 private sales, six state sales, and three all-breed sales.

Efforts were coordinated for the correct grading and handling of pigs in the graded sales by the organization of the North Carolina Graded Feeder Pig Marketing Association.

The swine specialists and the Pork Producers' Association jointly promoted feeder pig sales, purebred sales, market hog shows, and made farmers aware of changes in animal health regulations.

Farmers throughout North Carolina were assisted in the marketing of hogs for slaughter. This has been effected by maintaining a good relationship with market operators and packer

buyers. Efforts were made to get buyers to pay a premium for better hogs.

Events such as field days, tours, swine shows, fairs, conferences, and other educational events were conducted by or participated in by marketing specialists. Specialists assisted in the organization of new pig sales, grading demonstrations, marketing meetings, and cooperated with swine committees of Area Development Associations.

Sheep numbers in the state continued to decline during this biennium. However, there is a definite interest among producers that are doing a good job and they are making money. The shift to larger flocks and making them a definite part of the farm business seems to be the answer. The small farm flock of 10 to 20 ewes seems to be definitely on the way out.

The lack of sheep numbers creates definite marketing problems. During the biennium 19 lamb pools were conducted, grading and shipping over 8,000 sheep and lambs. In addition, we supervised the grading of lambs at one auction market that handled approximately 10,000 sheep and lambs. During the biennium a second market at Boone started lamb sales in June, 1968. Also 260 replacement ewes were bought and distributed to North Carolina farmers in the spring of 1968.

During the biennium, 218,778 pounds of wool were marketed through North Carolina wool pools. The wool was collected at six points in the state each year of the biennium. The wool is offered for sale on a bid basis, and collected and classed by personnel of the section, working with N. C. State University Extension personnel. The wool price at time of sale was cheaper, but when the producer presents his wool sale slip to the A.S.C.S. office for government support payment, the net money will be about the same as in past years, making sheep still a profitable livestock enterprise.

## LIVESTOCK

### (Grading and Regulatory)

The production and marketing of livestock and livestock products is now constituting one of the major sources of farm income in North Carolina.

Grading of beef, veal, pork and lamb assures the consumer of dollar value for dollar spent. During the 1966-68 biennium,



specialists graded 12,681,739 pounds of beef, veal, lamb and pork using North Carolina Department of Agriculture Grade Standards.

Assistance was also given North Carolina state-owned and supported institutions in buying, grading and acceptance of all meats and meat food products. During the biennium, 22,338,469 pounds were graded and accepted. This service assures North Carolina state-owned and supported institutions that the products they buy meet quality standards according to state specifications.

During the biennium, assistance was also given city and county school systems in their purchases of meat and meat food products to assure them of receiving quality meats according to North Carolina state purchasing specifications.

#### POULTRY AND EGGS

##### **(Market Development)**

North Carolina ranked sixth in the nation in egg production in 1967 with a production of 2,949,000,000 eggs showing a gross income of \$90,682,000.

Lower egg prices and keener competition for egg sales, along with rising feed costs, created an increasing demand for marketing service assistance. During the biennium, 288 egg producers and/or egg packers were visited for the purpose of assisting them with various egg problems. Personnel were trained to handle eggs properly as well as to remove undergrades.

The division made an all-out effort to keep industry personnel abreast of changes in the shell egg standards. Correct washing procedures were demonstrated along with the care of the eggs in the cooler and maintaining proper sanitation, temperature and handling in the work areas and cooler. Egg problems were sometimes traced to dirty cages or nesting material.

Service work included assisting the Southeastern Poultry and Egg Association, Poultry Division Grading Branch, U. S. Department of Agriculture, and the South Carolina Department of Agriculture in making arrangements and scheduling a three-day Egg Quality and Grading School at Charlotte in June, 1968. More than 100 persons attended this school which was the first such one to be held in North Carolina since 1944. During the period of this report, 11 egg quality schools were held

with egg packers where 85 people were trained to candle, pack and handle eggs according to recommended procedures. In addition, eight area quality and marketing schools were conducted in cooperation with the North Carolina Extension Service, with 128 persons participating from 97 counties. Two schools were held in the eastern part of the state, four in the piedmont area, and two in the western area.

Specialists prepared and presented eight television shows and six radio programs. Other activities by specialists included serving as secretary and treasurer of the N. C. Egg Packers Association and as directors of the N. C. Egg Marketing Association and the North Carolina Turkey Federation. Specialists also assisted the N. C. State University 4-H Club staff with judging 4-H egg cooking demonstrations in three district areas, with 37 4-H members participating.

At present, personnel of the Poultry and Egg Service Section are assisting in the organization of a North Carolina Poultry Federation.

North Carolina ranks fourth in the nation in broiler production, with 262,872,000 birds produced in 1967. Market conditions are in a constant state of flux which dictate changes in assistance programs. The section worked with more than 250 processors, growers and retailers indicating need for assistance in processing and marketing of cut-up broilers. Emphasis has been placed on reducing the number of undergrades.

Visits were made to each plant and a quality control program was begun in most of them. These quality control programs resulted from extensive studies of bruising made in conjunction with USDA Research personnel. A new automated poultry cut-up machine was demonstrated for 16 processing firms. Thus, constant efforts are made to reduce processing cost and improve the quality of North Carolina poultry.

#### POULTRY AND EGGS (Grading and Regulatory)

The Poultry & Egg Grading Section of the Markets Division provides official grading of poultry and shell eggs and the inspection of egg products to plants processing and packing these items in North Carolina. In addition, any interested parties who wish their product certified for grade and quality according to federal-state standards can request this service on a fee basis. The pro-





Eggs at the retail level are checked for compliance under the N. C. Egg Law.

gram is entirely self-supported by fees collected from plants contracting for service and by individual fee gradings which are made on request.

Each plant contracting for federal-state grading service is assigned a state-employed grader who has been given intensive training and licensed to grade poultry products. Under his supervision, each chicken, turkey or egg is individually graded and labeled or placed in a consumer package labeled with the U. S. grade and weight or size. Each plant operates under strict sanitation requirements to insure the consumer that these products are processed, graded and packaged in accordance with state and federal regulations.

At present the federal-state grading service has 25 graders stationed in 12 poultry grading plants, nine shell egg grading

plants and three egg products plants.

During the 1966-68 biennium, official egg grading service was installed at Dean Farms, Inc., Louisburg; Springdale Farms, Inc., New London; and Parker & Reichman, Inc., Andrews. The installation of service in these plants necessitated the need to employ three additional shell egg graders.

Official poultry grading service was installed at Holly Farms Poultry Industries, Inc., Hiddenite; Southeastern Poultry of N. C., Inc., Charlotte; Wallace Turkey Farms, Inc., Wallace; and Rose Hill Poultry Corporation, Rose Hill. Four additional people were employed, trained and licensed as poultry graders in these plants.

Egg products grading service was installed at Dean Farms, Inc., Louisburg during this biennium. The resident shell egg grader at this plant was then given intensive training and licensed to inspect egg products.

One of the most recent services provided by the poultry and egg grading program is the grading of each turkey sold by the grower to the processing plant. The federal-state grader provides the processing plant with a certificate showing the grade yield of the flock on an actual head count basis and this document is the basis of settlement in payment to the grower for his turkeys. The grader is always available to the grower to point out any factors that may cause the turkeys to be lower than U. S. Grade A. As the grader is a disinterested party in the transaction, the grower is assured of fair and impartial grading which is essential in determining the fair price for the grower's production.

Assistance was given to plants throughout the state with sanitation and various other problems. Numerous resurveys were made at poultry products plants to re-evaluate their equipment and facilities. Technical assistance was given when necessary. Visits were made to plants considering the installation of service and suggestions were made for improvements which would enable them to conform with requirements as stated in the USDA regulations.

Egg products inspection and turkey grading made the most marked increase of all poultry products during the biennium. With the installation of service in a new egg products facility and the addition of pasteurization equipment and other expanded facilities, the volume of egg products inspected showed a 57.8 percent increase with the majority of this increase occurring



during the fiscal year 1967-68. The volume of egg products inspected during that year more than doubled the amount inspected in the fiscal year 1966-67. The volume of turkeys graded also showed a substantial increase of 57.8 percent for the 1966-68 biennium.

Following are figures showing the exact volume of poultry products graded for a comparison of the 1964-66 and 1966-68 bienniums with the percent increase shown for each product :

	1964-66 Biennium	1966-68 Biennium	Percent Increase
Shell Eggs (dozens).....	64,464,462	74,486,160	15.5 %
Frozen Eggs (pounds) ____	4,896,788	7,731,105	57.8 %
Chickens (pounds) .....	388,228,535	505,779,532	30.3 %
Turkeys (pounds) .....	110,205,426	173,939,570	57.8 %

EGG LAW

This section began enforcing egg products inspection on July 1, 1966, and at present has seven plants operating under this portion of the Egg Law. Sanitation, processing and refrigeration of egg products and materials used in these facilities are set forth in the rules and regulations governing processing of egg products. Specialists also began taking samples for laboratory analysis and have found all products thus far to be free of salmonellosis.

There are six specialists working with the Egg Law in North Carolina. The state is divided into six areas with specialists located in Faison, Washington, Statesville, Earl, Asheville and Raleigh. Dividing the state in this way has decreased the cost per unit of work from \$14.60 in 1963 to \$6.67 in 1967.

The Egg Law is basically regulatory in function, but specialists assigned to it also work closely with other sections of the division in promoting eggs and egg quality. Several television and radio programs were presented and several news articles published to help educate the public on quality eggs and work of the Egg Law.

Specialists continued to work closely with the industry in an effort to enforce the Egg Law. Close contact was maintained with industry members by attending professional meetings of the industry. The Egg Law works closely with other departments of state government to acquaint personnel of the require-

## Work Summary

	1963	1964	1965	1966	1967
Retail store visits .....	1,482	4,202	5,085	9,432	8,551
Retail stores in compliance.....	796	2,002	2,415	5,266	5,709
Retail stores in error.....	686	46.3%	2,200	52.3%	4,166
Distributor visits .....	191	239	263	646	483
Inspections .....	3,832	7,622	9,445	16,139	17,332
Eggs graded .....	407,943	656,973	877,241	1,491,674	1,615,460
Cases of eggs removed from sale....	680/26	426/5	2,332	3,791/3	4,051/28
Violation letters to distributors.....	136	268	567	2,583	1,202
Violation letters to retailers.....	686	2,200	2,670	4,166	2,613
Producer visits .....	44	89	142	(Meetings) 60	(Meetings) 35
Days in field .....	383½	629	678½	1,215	1,193
Visits per day .....	4.5	8.06	8.09	8.3	7.2

## Financial Summary

	1962	1963	1964	1965	1966	1967
Expenditures .....	27,164.04	25,072.53	36,384.09	38,646.99	50,970.05	60,250.72
Cost per unit of work or per visit.....	25.36	14.60	8.03	7.05	5.06	6.67



ments of the law and benefits to be obtained by compliance.

In an effort to help promote and market quality eggs in North Carolina, specialists participated in several egg schools; worked closely with North Carolina State University Poultry Department; judged egg shows at several county fairs and set up exhibits at the North Carolina state fair; worked with neighboring states in discussing mutual problems; worked closely with new industry in setting up new stores and promoting egg quality; and distributed copies of the pamphlet "Know Your Eggs" which explains the Egg Law and promotes egg quality.

On July 1, 1967, the Egg Law began enforcement of refrigeration on shell eggs. This part of the program has probably done more to improve egg quality than any other part of the law.

Administration of the Egg Law involved visits to 17,983 retail facilities during the period, 38.7% of which were in violation of the North Carolina Egg Law. Personnel visited and worked with 1,129 producers and distributors in an effort to correct producer and distributor violations. Hearings were held with 112 violators in an effort to secure compliance without court action. The department brought one court case resulting in a conviction for persistent violations during the biennium.

### TOBACCO

During the 1966-68 biennium, the century-old flue-cured auction market system experienced its first major changes. This transition had its beginning in 1962 when loose-leaf sales were first extended to the Carolinas and Virginia. The transition will likely reach its climax during the 1968 marketing season with the extension of loose-leaf sales throughout the season.

Moving from a traditionally tied market to an untied market has created many problems that must be compensated for through certain adjustments in marketing practices. Every segment of the tobacco industry, including farmers, warehousemen, and buying companies, will have to adapt and adjust to these changing times and new market situations; but all adjustments should be based on sound judgment and careful study of all available data pertaining to the situation. The Tobacco Section is providing much of this needed information and services to help the industry meet the current market dilemmas.

One of the most pressing problems involved in the present market transition is that of moving bulky loose-leaf tobacco from

the farm, through the auction market, and into channels of trade. Upon requests from an industry committee, the Tobacco Section conducted a joint project in 1967 with the Tobacco Research Department at N. C. State University to evaluate several treatments for packaging loose-leaf tobacco. This evaluation was made through specially arranged sales, which included four sales in North Carolina, and South Carolina and Virginia cooperating under our supervision with one sale each.

Much valuable data were collected from the 1967 packaging sales relative to loss of weights in various types of packages, which was not heretofore available to the tobacco industry. This information clearly indicated that weight losses were greatly reduced in any type of package where the tobacco was pre-packaged at the farm and remained in the same container until it reached the processing plant.

The results of the 1967 packaging sales were inconclusive so far as the development of a new package for loose-leaf tobacco is concerned. However, it was established from data collected that pre-sheeting was the best available method that could be used immediately to improve the handling of loose-leaf tobacco, although most tobacco companies look upon pre-sheeting as just a temporary step that would offer some improvement over the conventional method of dumping tobacco on the basket. Thus, it was on the basis of the data collected from the 1967 packaging sales that the industry committee made its recommendations that a pre-sheeting system be implemented for the 1968 marketing season.

At the same time the industry requested that the project to develop a loose-leaf package that would be more adaptable to mechanized handling, be continued during the 1968 marketing season; and plans have been made by the Tobacco Section to continue this project.

Another service rendered by the Tobacco Section during the last biennium was that of assisting warehousemen to cope with labor shortages and to improve their efficiency in receiving, weighing, and handling tobacco on the warehouse floor through the use of mechanized conveyor systems. Periodic consultations were held with the ARS industrial engineer who is developing a completely mechanized marketing system, and advice was given him as requested.

The service program to help growers improve the quality, usability, and trade acceptability of flue-cured and burley to-





**The old and new in packaging tobacco—net sleeve in foreground and conventional basket and cardboard container in the background.**

bacco was continued during the 1966-68 biennium through a two-phase program consisting of pre-marketing and marketing activities. Each phase was conducted through organized group meetings with farmers on requests from vocational agriculture teachers, county farm agents, farm organizations and others. Also, wider use was made of television, radio, newspapers, magazines and printed leaflets as media to inform growers of the current market situation and practices necessary to meet market demands.

During the biennium the Tobacco Section also represented the N. C. Department of Agriculture at numerous hearings, farm and industry meetings, and other functions pertaining to the welfare of farmers and various other segments of the tobacco industry. The head of the Tobacco Section also serves on the Board of Directors of the Tobacco Tax Council and the Tobacco Growers Information Committee.

As required by the General Statutes, a certified leaf sale report was collected monthly from each of the approximately 200 warehouses that operated in North Carolina. The data were recorded in a permanent ledger and from this record a summary report was prepared according to belts and markets and dis-

tributed through news media and a circularized mailing list each month during the marketing season.

Also, the 18th and 19th annual issues of the N. C. Tobacco Report were prepared at the end of the 1966 and 1967 marketing season. This bulletin was distributed to about 6,000 persons and firms requesting it each of these years.

An annual summary season report was prepared for the N. C. Department of Revenue showing volume of sales for each of the two hundred warehouses by counties and markets as required by law. This data is used as a basis for taxing warehouses according to volume of business.

During the biennium a move was started by some purchasers to contract and buy tobacco directly from farms through pick-up stations. A continuous check was made where direct purchases were involved to see that they were complying with the Handlers Act and that the farmers' interests were protected. Also, several complaints were made relative to warehouse charges in excess of the amount established by law. These complaints were checked out and in one instance a warehouseman was required to make refunds of excessive charges to several hundred growers.

A summary of all statutes pertaining to the marketing of tobacco was prepared and is available upon request from the Tobacco Section.

### COTTON

The work of the cotton section during the last two years was concerned primarily with technical service to ginners, quality improvement, and promotion and expansion of the market for North Carolina cotton.

Service work with gins was concentrated on equipment changes in connection with improving efficiency in handling the increased volume of machine picked cotton.

Special emphasis was placed on instructing and working with ginners in the correct use of heat in ginning cotton. By not overheating the cotton and using a minimum of lint cleaning, along with the new high quality varieties possessing superior physical characteristics, North Carolina has improved its acceptance in comparison to cotton produced in other areas. North Carolina cotton has not been discounted for poor quality during the last two years and continues to command a premium above the government loan rate.



Work with both public and private agencies in allied programs of improvement has moved forward on a coordinated basis where such programs offer potential improvement in market volume and value of North Carolina cotton.

The section has worked with merchants and mills in locating cotton of a specific grade and staple or other quality factors. Advice on marketing specific producers' cotton has been given at the request of the producer.

The weather during the last two years was bad for cotton and a reduced volume was produced. As USDA-CCC stocks have been sold, the carry-over of good quality cotton has been drastically reduced. This shortage in supply has also pushed up prices for quality cotton. The use of quality varieties with careful harvesting, correct ginning and wise marketing has established North Carolina in an improving position in marketing cotton.

## FRUITS AND VEGETABLES

### (Market Development)

North Carolina farmers have continued to show increased interest in the production and marketing of both fresh and processed fruits and vegetables. During the past biennium, processed cucumber acreage has risen in our state to 35,100 acres, which is 12,020 acres over the 1964-1966 biennium. This increase in acreage made North Carolina the leading producer of pickling cucumbers in the United States during this biennium.

The bulk of this acreage is being grown by small farmers as a supplementary crop to their tobacco acreage, giving them something like \$9,000,000 in the month of June before harvest of tobacco begins. Processing firms are continuing to show more interest in the pickle crop in our state because of the quality of cucumbers our growers are able to furnish them.

Success with the pickle crop in North Carolina has aided our section in obtaining additional acreage of vegetables, with processors interested in other fruit and vegetable crops, such as snap beans, sweet potatoes, carrots, apples and tomatoes. Production of all of these crops has increased in the state, and we believe they will continue to show increases as long as North Carolina farmers can furnish the buyers with quality merchandise. This increased demand for quality products by the processor and the interest shown by our farmers for needed supplementary crops

have definitely increased the service work in our section. A summary of this work for the 1966-68 biennium follows.

1. Promoting and encouraging farmers to grow contractual acreage of fruits and vegetables for processing companies through—

a. Personally contacting firms and arranging for them to come into North Carolina and meet with grower groups.

b. Organizing grower groups that may be interested in production of contract fruits and vegetables.

c. Assisting growers and the processing firms with arriving at equitable prices for the crops to be produced.

d. Assisting growers in becoming familiar with the contract arrangements, and the processing firms with meeting North Carolina contracting laws being enforced by the division's regulatory section.

e. Assisting firms with locating and setting up buying stations.

f. Assisting with setting up grading and handling equipment to properly package the fruits and vegetables that are to be shipped.

g. Assisting firms and growers with arranging for proper transportation to move the commodities to processing plants.

h. Assisting growers and processors in the field with harvesting problems to insure the quality necessary for No. 1 packages.

i. Arranging and conducting conferences and meetings with growers and processors on any points that need clarifying in marketing the crops produced.

2. Publishing each year a bulletin entitled "Schedule of Movements", which includes the volume of inspected produce that moves through our markets. This is mailed to some 600 buyers up and down the Eastern Seaboard.

3. Arranging for and giving radio and television programs related to marketing fruit and vegetable crops in our state. Also, preparing newspaper articles for release regarding these crops.

## FRUITS AND VEGETABLES

### (Grading and Regulatory)

The 1940 yearbook of agriculture, "Farmers in a Changing World", was a most enlightening and interesting publication. Thirty years later we continue to be in a constant state of change.



Production, harvesting and marketing practices have shown drastic changes, and improvements.

The grading and regulatory services have likewise changed, not in principle but in methods and practices which have been necessary to keep abreast of the new and improved marketing patterns.

Grading or inspection of fresh produce is one of the oldest services of the division, requiring an appreciable number of personnel. North Carolina was one of the first states to provide this service to producers and shippers. It is also a fluctuating type of activity. During the months of January to March only a small number of licenses are required for grading and certification. The number increases from 50 to 60 by June and builds up to more than 300 employees during the fall and early winter months.

The seasonal nature of the work necessitated conducting many training classes for new personnel and refresher courses for persons with previous inspection experience. These courses are not only necessary but most beneficial. Accuracy in determining the grade of a product and impartial application of the standards are essential.

The standardization and inspection programs are the kind of services that improve the performance of the entire marketing system, in ways that do not always meet the producer's or consumer's eye. They benefit both producer and consumer.

The producer and shipper want to know the grade of their product before it is shipped to a distant market. The consumer can buy with confidence when she selects her produce by a standard quality designation. The rapid increase in consumer size containers makes the use of grades more important. Consistently uniform quality means repeat purchases by the consumer, which ultimately results in increased sales by the producer.

Many advancements have been made in grading techniques. Peanut grading is an outstanding example. Only a few years ago grading procedures were done almost entirely by hand. Now the samples are drawn by mechanical devices and the shelling, screening and splitting of kernels are done by mechanical equipment. The use of such mechanical devices means that we are now able to analyze a much larger sample which results in more accurate grade determinations.

The division also conducts a receiving market service which is largely for the wholesale trade. This service is vital to long dis-

tance tradng. Any receiver who is not satisfied with the produce he receives may contact our Asheville, Charlotte, Raleigh or Williamston offices and request an official grade determination of the commodity in question. In nearly all cases, claims and disputes are settled on the basis of the official certification issued by our most experienced inspectors. The above services are conducted on a fee basis. Standard fees are assessed the person or firm requesting the inspection.

The division also carries out the provisions of three regulatory laws, namely: The "Handlers Act", the "Seed Potato Law" and the "Branding Law".

The Handlers Act was enacted to protect producers who enter into contracts with persons or firms to produce a commodity at a stated price. The contracts must be approved by the Commissioner of Agriculture. When the Commissioner is satisfied that the contract is fair and reasonable and the buyer furnishes evidence of financial responsibility, he issues such person or firm a permit to operate during the current season.

The Seed Potato Law protects the grower against inferior potatoes for propagation purposes. Four to six inspectors are assigned to this work during the period when seed stock is arriving in the potato areas.

Apple and peach growers and shippers, recognizing the value of accurate and true labeling, asked for and received an appropriation for the enforcement of our branding and labeling laws. This service began in 1967 and showed excellent results. Our inspectors check to see that the containers are properly marked as to name and address, variety, size and grade. This work applies to all apples and peaches offered for sale or exposed for sale, regardless of state of origin.

The following statistical summary is given to show the broad scope of these services and the volume involved.

### Summary—1966-1968

Carlot inspections, shipping point (66-67 only).....	6,651
*Pounds inspected, shipping point (67-68).....	269,722,481
Farmers' Stock peanuts graded, tons.....	363,200
Packages graded at auction markets.....	2,661,745
Carlot inspections, for receivers .....	1,205
Pounds graded for state and federal agencies.....	5,982,225



Training classes conducted .....	25
New inspectors trained .....	150
Number inspectors given refresher courses.....	395
Number bags (100 pounds) seed potatoes checked ...	363,200
Number permits issued under Handlers Act .....	70
*Beginning July 1, 1967 shipping point volume was reported in pounds.	

Other activities include conducting conferences with area and local supervisors; attending producer, shipper and dealer conferences to explain the grading activities; preparing and presenting radio programs relating to the work.

### GRAIN (Market Development)

Important changes occurred in the production, harvesting and marketing of grain in North Carolina during this biennium. Not only did number and size of combines and harvesters used by our producers increase during the period, but producers experienced dramatic increases in yields of corn and wheat with the use of new varieties and better cultural practices.

With the exception of a drought stricken 1966 corn crop, our total grain production in North Carolina set new records, with an estimated 107 million bushels of corn and 27 million bushels of soybeans produced in 1967. This compares with 92.1 million bushels of corn and 19.4 million bushels of soybeans in 1965. Increased production has created a need for additional storage and more efficient grain handling operations.

Thirteen surveys were completed at the request of interested individuals and firms looking at the feasibility of new or additional facilities. New or expanded facilities were added at a value of \$3 million representing an additional 3.2 million bushel handling capacity.

During this biennium 113 firms were assisted with the primary objective of improving efficiency. This involved decisions to add higher capacity conveying equipment, larger capacity drying equipment or relocating equipment. The reduction of handling costs was given prime consideration in making these changes. One hundred and thirty-seven firms were assisted in this area of activity during the biennium.

In 1966 soybean production began a rapid expansion. Assistance was given to operators of soybean buying facilities in

establishing efficient operations and equitable marketing policies. A total of 30 firms in the piedmont area received assistance giving an estimated increase in return to producers of 5 cents per bushel or \$150,000.

To aid in holding present markets and in expanding market changes, 65 grain facility operators were assisted in ways for maintaining quality in stored grain. Increased use of aeration and temperature indicating equipment during the biennium saved the grain industry \$8 to \$10 million compared to losses of the past few years.

Specialists planned and presented a total of 42 television programs and 19 radio programs on grain harvesting, marketing, storage and handling practices in North Carolina. Fifteen news articles were released. Specialists organized and presented a total of 22 grain schools, clinics or seminars to 541 people. Fifty-one other meetings with agricultural workers and agencies were attended by specialists in this section. Over 3,500 persons were in attendance at these meetings.

The awareness of quality grain seed has increased greatly during this biennium. Development of the high yielding "Blue Boy" wheat variety made small-grain farmers more seed conscious. Seedsmen have become more conscious of improving their efficiency in cleaning operations. During the biennium, 320 seed producers and processors were assisted in improving their ways of cleaning, drying, sizing, treating, packaging and merchandising seed.

Bulk handling of seed has developed rapidly during this period. This has called for specialized handling equipment and rigid quality controls within facilities. The accelerated use of multi-wall paper bags has been the most prominent change in packaging. The use of pallets and fork lifts have become accepted methods of warehousing seed.

## GRAIN

### (Grading and Regulatory)

Production of most grain crops continued to increase in North Carolina during the 1966-68 biennium. As a result, the services provided by the grain inspection section were sought at an increasing rate.

Twenty-five firms used 32 grain graders for 4 to 12 weeks during 1966. Several firms called for service on grain inspection



who had never used the services before. Eighteen grain graders were used at 11 stations during 1967. This decline in the number of graders was the result of a shorter than expected crop in 1966, but request for inspection is again on the increase.

During 1966-67 we sampled 20,545,250 pounds of flour and shortening under contract with the federal government. The contract was not renewed for 1967-68.

Several grain and feed dealers requested that we explore the need for one or more grain inspection stations in Piedmont North Carolina. The inspection section made a survey on this need by checking 714 carlots of corn shipped into North Carolina from December 1, 1966 to June 30, 1967. Grain is usually bought or sold on the basis of the U. S. Grain Standards and No. 2 is generally the grade that grain is traded on. It was found that 98 percent of the 714 carlots of corn graded less than No. 2 and carried a discount of 1¢ or more per bushel. From approximately 2½ million bushels of corn that were officially sampled and graded the total discounts came to \$236,389.56. The fees and charges by the N. C. Department of Agriculture came to less than \$6,000. When these statistics are used as a criterion for establishing the need for grain inspection stations in North Carolina, it is apparent that such a need exists.

A summary of the work of this section during the biennium follows:

### 1966-1968

Inspections: Complete inspections .....	2,717
Submitted samples .....	209
Estimated bushels inspected .....	8,151,000
Firms assigned temporary inspectors .....	36
Farmer lot inspections .....	70,000
Estimated bushels of grain represented .....	21,000,000
Pounds of flour and shortening sampled .....	20,545,250
Hay inspections .....	4
Grain schools conducted .....	5
Moisture meters checked .....	30
Grain dealers visited and assisted .....	92

## ENGINEERING

Engineering assistance to agricultural processors is rendered on a request basis. These requests may come directly from processors or from other divisions in the department, other agricultural workers, or agri-business men.

Requests for assistance have been on the increase for several years. The interest in processing agricultural products produced here in North Carolina has increased because of the emphasis that has been placed on it by all agri-business groups. There were 39.5 percent more processors assisted during the last year than in the first year of the biennium.

The Engineering Section played a significant role in supplying the operators of marketing facilities with answers to some of the problems which they encountered. This was done on a consulting basis where the engineer visits the processor and studies the problem and makes on-the-spot recommendations; or through a more extensive study where all of the facts were obtained in the field and brought back to the office for further study. The latter method usually resulted in recommendations containing a detailed set of drawings and specifications.

There were 103 facilities assisted during this biennium as illustrated in the table. It is estimated that the construction cost of these facilities when completed would amount to \$4,000,000.

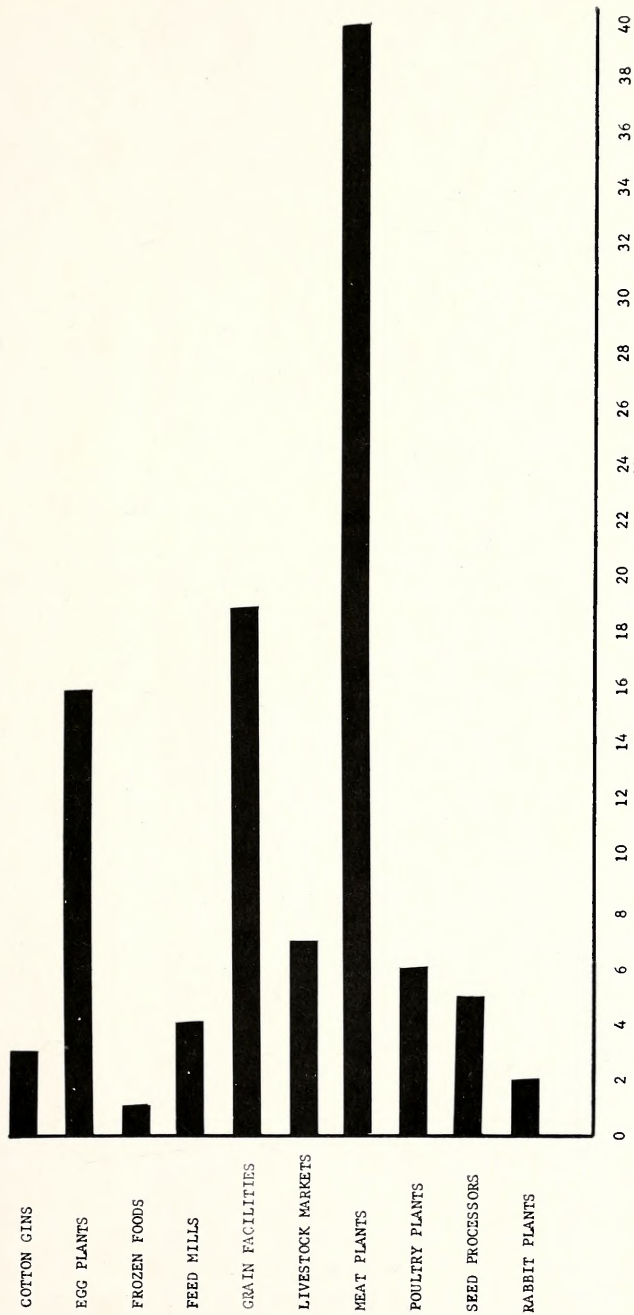
Assistance was provided for the construction of new facilities and renovating old ones for expansion and improvements. The main factors considered in assisting these plants was sanitation, product quality, plant improvement, and efficiency.

In addition to the engineering assistance provided by this section, it is also responsible for operating the Cotton Fiber Testing Laboratory.

The major function of the laboratory is to provide fiber data on North Carolina cotton to all segments of the industry. The laboratory releases a weekly report during the ginning season which pinpoints the quality of the crop by areas, usually consisting of one or more counties. The report is mailed to cotton mill buyers, brokers, and merchants and it is used as a tool in marketing North Carolina cotton. If a buyer is looking for a given quality of cotton, he has a source of information at his fingertips to tell him where he can find it. During the months other than the ginning season, the laboratory performs courtesy tests for gins, merchants, cotton breeders, or cotton mills. During this biennium, the laboratory tested 12,864 samples for all segments of the industry.



NUMBER OF REQUESTS COMPLETED  
JULY 1, 1966 to JUNE 30, 1968



NUMBER OF REQUESTS  
TABLE

## MARKET EXPANSION AND PROMOTION

The N. C. Department of Agriculture, realizing the importance of the food industry to the economy of North Carolina, established within the Markets Division a Market Expansion and Promotion Section during the biennium. The section is composed of four marketing specialists. Its primary objective is to promote the increased consumption of food products grown and processed in North Carolina. This is being done by working with agricultural commodity associations, news media, trade associations and other agricultural agencies.

During the biennium, a 34-foot mobile exhibit trailer was purchased for use by the Markets Division and agricultural commodity groups to promote food products at shopping centers, trade shows, special events and agricultural fairs all over the state. Approximately 125,000 people visited this exhibit during 1967.

In April, 1968, the Market Expansion and Promotion Section participated in the American Festival in Tokyo, Japan. North Carolina products were introduced to the Japanese market. As for actual sales during the exhibition, we received firm orders for approximately \$70,000 worth of North Carolina poultry and completed licensing arrangements for \$225,000 worth of North Carolina products to be shipped to Japan during the following twelve months. We also completed the sale (by actual signing of the contract) of 5,000 tons of Dare soybeans. This sale represents over \$500,000 worth of North Carolina soybeans.

Specialists from our section made regular and guest appearances on television and radio and at group meetings promoting North Carolina food products. During the biennium, 199 television and 84 radio shows were given. Also 182 illustrated talks were made to 25,406 school children and 998 teachers to encourage the use of North Carolina foods. In addition, several meetings were held with school lunch workers and Parent-Teacher Associations.

The section designed a portable knock-down booth to exhibit at trade shows, fairs and various special events. The booth is flexible enough so that it can be used to carry out a variety of themes. Other exhibits were displayed at meetings, including the 10 district North Carolina Education Association meetings in 1966 and 1967 and at the N. C. Congress of Parents and





This mobile unit, containing more than 400 North Carolina food products attracted thousands of interested persons on its statewide tour.

### Teachers in 1966.

This section worked very closely with the Governor's Retail Food Industry Award Program. This is a merchandising contest in which the Governor gives an award to the retail food store for excellence in merchandising North Carolina food products. This has proved to be an excellent means of calling to the attention of the retail stores the wide variety of North Carolina food products available to them.

The Market Expansion and Promotion Section has assisted with many special events sponsored to promote North Carolina food products. These events include special emphasis weeks or months, cooking contests, festivals and food shows, such as June Dairy Month, the Blueberry and Peach Festivals, Chicken Cooking Contest, Broiler Month, Better Breakfast Month and the Corn Meal Contest.

The power companies of North Carolina cooperated in financing, planning and installing a promotion kitchen which was nearly ready to be put into operation at the end of the biennium. This new kitchen was designed for the purpose of promoting North Carolina food products more effectively. It will be used by the division's two home economists to prepare food for television and group demonstrations; to test new recipes and to evaluate new food products.

## MARKET NEWS

The Market News Section began releasing the state's first seasonal sweet potato market report during the biennium. The current release states prices received by growers for U. S. No. 1 quality potatoes delivered to buyers grading sheds, F.O.B. shipping point values, and processor prices paid for stock delivered to the plant, as well as the number of bushels processed. Other information is obtained relating to supply, demand, and market condition. A mailed bulletin is prepared giving the North Carolina report and current price information in other growing areas, as well as terminal points. The release is made daily during harvest season and semi-weekly thereafter until the bulk of the potatoes are sold.

Recent increases in the production and marketing of apples in the mountains brought about a need for a seasonal apple market report. Daily contacts were made to shippers obtaining F.O.B. shipping point quotations and releases were provided the press agencies, and mailed reports to individuals upon request. Prior to this information being made available, no official price quotation was provided to the industry.

Another significant service was begun, that of reporting cotton prices paid to growers F.O.B. country buying points. This information was to be collected on an area basis, but due to the shortage of the 1967 crop, the release was limited to the southeastern section. Heretofore, producers had little knowledge of the market at selling time.

In response to a request by the North Carolina Egg Packers Association, a reappraisal of our present market report on eggs was encouraged with emphasis on wholesale cartoned prices. Necessary contacts were made to broaden the coverage and the industry expressed much appreciation for this daily information in addition to the grade-yield price.

There were no significant changes in the reporting procedures of fryers, hens and turkeys. Farm values were collected on fryers as well as ready-to-cook prices delivered to terminal metropolitan areas throughout the southeast. Hen quotations were collected on an at-farm and delivered-plant basis. Delivered-plant live turkey prices were provided semi-weekly.

The Market News Service established six additional daily contacts with grain dealers, now totaling 20. The additional market price information is definitely an asset to farmers and



dealers in keeping abreast of values in all sections of the state. Quotations are for grain delivered to elevators.

A continued Federal-State agreement on Tobacco Market News reporting was provided. A special daily radio program was established from our office during the biennium with the secretary giving the report. Other Federal-State agreements existing were seasonal offices in Elizabeth City on Irish potatoes, and, for the first time in 12 years, a peach market news office in Southern Pines.

Our coverage of livestock remained virtually unchanged with the exception that we have expanded feeder pig sale coverage to include 15 sales at seven locations. Reporters are now covering four weekly livestock auctions and we are in contact with 32 daily hog buying stations. The directory of "Livestock Markets and Dealers in North Carolina" was again revised during each year of the biennium.

The dissemination of market news information continued to be an important factor during the biennium. We continued to encourage producers and tradespeople to rely on radio, television and newspapers for the latest market information. Two additional radio stations, WNCA in Siler City and WKBC in Wilkesboro were added to our list of daily contacts. The Caranet Radio Network increased its coverage by four stations, making a total of 24 radio stations carrying market reports directly from our office.

We encouraged radio and television stations and newspapers to keep the public informed on farm commodity markets. Two specialists appeared on several TV programs throughout the biennium explaining the role of market news in agriculture.

#### COOPERATIVES AND TRANSPORTATION

Groups of farmers planning to form a cooperative association should have technical advice from those experienced in the activities in which the association will engage, and competent advice on all phases of operating a farmer cooperative.

Commonly, a group of producers considering formation of a cooperative association arranges for a general meeting of farmers who might be expected to be interested in discussing the possibilities of a cooperative.

After this has been done and the group wishes to pursue the

organization further, the normal procedure is to contact the cooperative specialist of the Markets Division of the N. C. Department of Agriculture and request that this specialist meet with a small organizational group to discuss how cooperatives are formed.

If, after this initial meeting, the group wishes to proceed, the cooperative specialist recommends that an economic feasibility study be made by one of the commodity specialists within the Division of Markets. If this endeavor proves to be economically sound and the group then wishes to form a cooperative, the cooperative specialist assists the organization in drawing up the charter and bylaws of the organization and gives such other help as possible.

After the organization is formed, the cooperative specialist works closely with the group to help them in the basic elements of cooperative record keeping, laws, etc. Farmer cooperatives are formed under Chapter 54 of the General Statutes of North Carolina.

During the past biennium, there was considerable interest in cooperatives and also in cooperative mergers, in expansion of present facilities, and in amendments to existing charters and bylaws.

The following new cooperatives were formed during the biennium:

1. The Upper Hiawassee Producer Association—Murphy
2. The Chatuge Egg Cooperative, Inc—Hayesville
3. The Yancey County Producers Association—Burnsville
4. East Coast Flower Cooperative Association, Inc.—Castle Hayne

The specialist assisted two co-ops in filing Articles of Dissolution. These were Wayne Dairy Breeders Cooperative of Goldsboro and Tri-County Dairy Breeders Co-op of Rocky Mount.

Numerous cooperatives were assisted in many ways, such as advising directors, managers, and members regarding management, sales, purchases, financing and record keeping. Also, financial reports of cooperatives were received and reviewed.

Eleven new non-profit promotional organizations were given assistance in filing charters and bylaws under Chapter 55A of the General Statutes of North Carolina, and a number were assisted in ways similar to those mentioned above.



Transportation activities were varied, including reviewing proposed changes and determining how these changes will affect North Carolina agriculture. Also, the specialist assisted the department's transportation consultant in preparing testimony and briefs for several cases which came up before the State Utilities Commission and the Southern Freight Association.

#### AGRICULTURAL FAIRS AND SPECIAL EVENTS

The Agricultural Fairs Section has the responsibility of inspecting and grading agricultural fairs for compliance with North Carolina General Statutes regulating bona fide agricultural fairs. Assistance is also given to fair managers in upgrading their particular fair.

Seventy-two fairs were inspected in 1966. Of this number, three graded No. 1, six graded No. 2, 22 graded No. 3, 36 graded No. 4, and four failed to grade. In 1967 there were 67 fairs inspected. Of this number, 17 graded No. 1, 15 graded No. 2, 16 graded No. 3, 17 graded No. 4, with two failing to grade.

A committee appointed by Commissioner Graham revised the scoring systems for fairs and established the categories: regional fairs, area fairs, county fairs, and community fairs. This added to the competitiveness of the fairs, and new interest was generated in both youth and adult departments of the fairs in the different size categories.

The Governor's office was assisted with the Annual Governor's Retail Industry Awards Dinner. This event has emphasized the role of North Carolina foods and pointed out to the more than 300 supermarkets in the state the availability of our food products.

People-to-people tours were conducted by carrying food chain buyers to food production areas. This program helped to expand our market by acquainting buyers with product availability.

## MUSEUM DIVISION

WILLIAM L. HAMNETT

*Director*



### INTRODUCTION

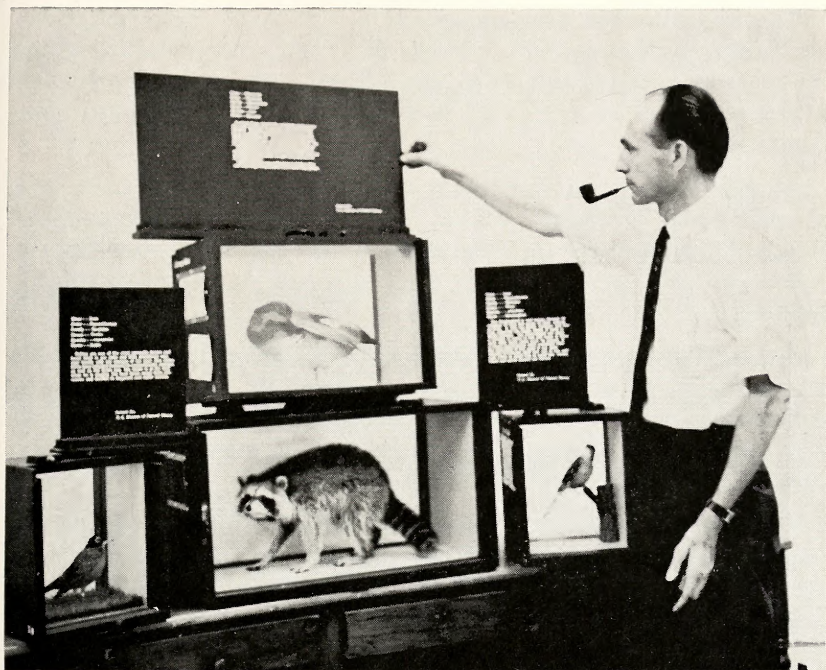
Like unto the chrysalis of a monarch butterfly, the museum has metamorphosed during this biennium from a period of preparation into dynamic accomplishments. To be sure, much remains to be done, but it is with pride that the following report is presented as an account of the museum's activities during the 1966-68 biennium.

As a division of the Department of Agriculture, the museum reaffirms its mandate to "keep a collection to illustrate the agricultural and other resources and the natural history of the state", and to care for, and make available to the people of the state, the natural history collection which the State has entrusted to it.

During this biennium, emphasis has been placed on the collection and dissemination of knowledge to the people of the state through education, exhibits and research. With these three activities, the museum is complementing the whole academic system of education by providing real objects from the three "kingdoms" of nature—animal, plant and mineral.

The purpose and service of the museum are more significant today than ever before because knowledge of the world in which we live is rapidly increasing and expanding. Techniques and methods are far more advanced than those dreamed of but a few





The traveling exhibit is one way the museum can reach those classrooms not fortunate enough to be able to visit the museum as a group.

years ago. During this biennium, the Museum Division has made every effort to keep abreast with progress and growth recorded in North Carolina.

### EDUCATION

North Carolina is no stronger than her remaining natural resources, and with this premise in mind, the museum's educational program is designed to acquaint all people with this fact. Seeing, touching and hearing about natural resources is of immeasurable value to our visitors.

Our lecture hall is small and can seat comfortably a class group of only 45 for a lecture or demonstration. Even with lack of space, this room was in use at least once a week. To offset this limitation, a self-guided tour was designed and developed for larger groups. Our teaching is primarily to supplement that which the student has already learned in school and to stimulate further study of the natural resources of our state.

The museum has for distribution, upon request, free slides, film strips, and one movie. These have been in constant demand throughout this period. The slide library is broken down into a "canned" lecture series of 15-20 slides, with a prepared commentary.

As each school group was registered in the museum, the teacher was given a teacher packet which contained mimeographed sheets on various subjects relative to the natural history of the state, and she was invited to duplicate any of the material she desired.

Since the museum is an educational institution, without restriction as to grade or class, we deem it important that the public be informed as to what services the museum can render. To bring this information to the public, including the schools, we used the press, radio, television, and word of mouth.

An innovation of educational value was the initiation of traveling exhibits for school, club, and group use. The exhibit is a mounted mammal or bird in a glass paneled box (with a protective shield over the glass that doubles as an instructional chart. The value of this type of exhibit to the viewer is that he is seeing a real-life specimen in a real-life pose. Although started in the last quarter of the biennium, the use of these exhibits is beneficial, and they are in great demand. Teacher, pupil and librarian evaluation of the first of the traveling exhibits proved to be quite complimentary and instructive.

#### ATTENDANCE

Visitors to the museum totaled 479,134—180,680 of whom came in April and May. The greatest number of visitors for a single day was 3,854 on May 10, 1968; and the total attendance for that month exceeded 52,000. The museum attendance report reflects the interest which people have in the natural history of North Carolina.

Groups varied in size from 10 to 180 persons, and all but six counties of the state appeared on our register. Eleven groups were from out-of-state. Among the miscellaneous groups were such visitors as 4-H Clubs, FFA Chapters, YMCA's, YWCA's, Recreation groups, Golden Age Clubs, Schools for the Blind and Deaf, and dignitaries from foreign countries visiting the Department and other State offices.



Museum Attendance

July 1, 1966 - June 30, 1968

July	22,252	<i>These figures represent the numerical average for each month of the biennium</i>
August	19,993	
September	10,802	
October	16,538	
November	13,879	
December	6,647	
January	8,784	
February	11,396	
March	22,780	
April	42,712	
May	47,628	
June	17,157	

The frequency of major group attendance during the biennium was as follows:

	Groups
Colleges .....	37
Senior High School (10-12 grades) .....	352
Junior High School (7-9 grades) .....	1,974
Elementary School .....	1,645
Kindergarten and Headstart .....	159
Scouts .....	156
Church Organizations .....	54
Hospitals .....	34
Miscellaneous .....	176

The ten counties leading in attendance at the museum were: Wake, Cumberland, Guilford, Durham, Forsyth, Nash, Pitt, Robeson, Wayne, Davidson.

## EXHIBITS

The first year of the biennium might be called the "year of exhibits"; the second, the "year of education".

So that science students may have an opportunity to check their biology insect collections as to proper nomenclature, an exhibit was designed to show classification and identification of representative Orders in our state.

The tobacco exhibit was updated so that fresh "hands" were supplied and statistical data made current.

Seven more exhibits, relative to the geology of the Earth Science course now taught in schools, were made and installed. The titles of these seven are:

2,100,000,000 Years Ago

Origin of Rocks

Fluorescent Minerals

Crystals

Classification of Igneous Rocks

Sedimentary Rocks

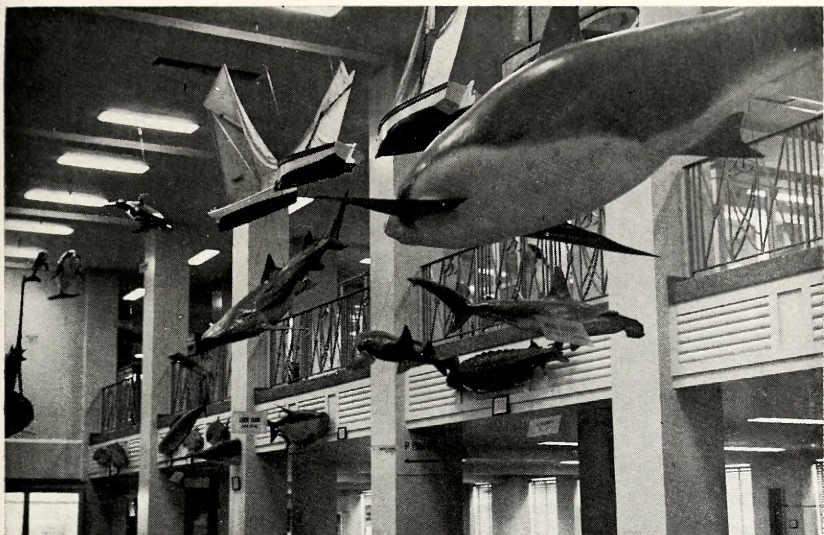
Metamorphic Rocks

The gem exhibit case was redesigned and restyled. The Central North Carolina Mineral Club provided a mineral exhibit of



The earth science series of exhibits shows what has happened geologically in North Carolina during the past 2-billion years.





**Fishes and marine mammals have always been an attraction to visitors.**

North Carolina items that has been of considerable value to the "rock hounds".

New cages and display techniques were incorporated in the changes made for keeping live poisonous snakes in the front hall of the museum. Because this area is so popular, an exhibit of live lizards was also established for public observance.

The North Carolina Shell Club donated the Lula Upchurch Memorial Shell Collection. This collection, when completed, will have specimens of all fresh-water and marine mollusks indigenous to the state. Representative specimens are on display now.

Since Triassic fossils have now been found in the Pomona Clay Works in Chatham County, the museum now displays Phytosaur bones and teeth. Of interest is the fact that similar bones and teeth have not been recorded nearer than Arizona.

Building stones, which were first used in international expositions about the turn of the century, were grouped together in an alcove in an attractive design.

Many of the old exhibits were refurbished and the whole museum was given a thorough cleaning twice.

Twenty traveling exhibits were designed and made according to specifications during the last quarter of the biennium. Each exhibit contains a mounted animal, with pertinent information imprinted on the package. This innovation to the educational

program has proved to be very successful and considerable time and study has been made toward further development of these three dimensional exhibits.

In order that workmanship and skill in providing exhibits during the biennium could best be utilized, a considerable amount of material and machinery was secured, as well as additional space in the basement for exhibit construction.

#### COLLECTIONS AND ACCESSIONS

An accession is material accepted by the museum for use in exhibits, or for preservation and research. In some cases, collection is made by staff members, but, by and large, the greatest amount of material comes from interested citizens who generously continue to "bring things in".

With strong emphasis on gathering data for the future systematic natural history survey of the state, several of the vertebrate collections were considerably augmented during the biennium. The number of accessions and the name of some of the donors follow.

**Mammals**—19. Notable additions to the mammal collection came from graduate students at N. C. State University and from naturalists employed by the Division of State Parks. Some who collected or made donations were: F. S. Barkalow, Durwood Jones, M. G. Edwards, Earl Polter, P. A. Stewart, and some employees of the North Carolina Wildlife Resources Commission.

**Birds**—62. The bird collection has grown steadily over the past two years. Most specimens were donated by generous citizens who found dead birds along roadsides or in their home yard. The personnel at a local TV tower apprised us of hits, and collections were made. Some who collected or brought in birds were: D. A. Cilley, Eugene Pond, J. W. Chalfant, David Carroll, Joel Arrington, Preston Vester, D. L. Wray, WRAL-TV (tower personnel).

**Reptiles**—136. The herpetological collection, which contains every species known to occur in the state, continued to expand, and a few species are now represented by numbers suitable for detailed poulation and individual variation studies. Of particular interest was the ready response from several experienced field men to our request for material from critical areas. Their continuing support and interest in this important museum function was sincerely appreciated. The museum received more requests from interested citizens for the identification of some





**Guided tours enliven a visit and tend to make a visit more meaningful and purposeful. These scouts are learning about the poisonous snakes to be found in our state.**

reptile or amphibian than for any other group.

Some who collected or brought in herpetological specimens were: George and Robert Tregembo, Bernard S. Martof, L. D. Dunnagen, F. F. Snelson, Jr., W. W. Newton, H. C. Newton, R. L. Morgan, D. R. Zehr, Joel Arrington, R. D. Miller, L. W. Wood, J. R. Paul, R. P. Rogers, T. E. Yarbrough, Les Cowan, R. M. Johnson, I. L. Garren, D. L. Wray, J. D. Hardy, Jr., T. C. Hord, and Ashley Manning.

**Fishes—60.** Approximately 30,000 fish were catalogued into the fish collection. Most of these were secured from critical areas previously represented by little or no material. Our backlog and current collections of fish need the services of a trained ichthyologist on the museum staff. Fortunately, while F. F. Snelson, Jr. and R. E. Jenkins, from Cornell University, were here on a visit to study our collection of Cyprinidae and Catostomidae, many of our unidentified fish were identified and catalogued, thus providing comparative material for subsequent identification of species in these two important groups.

Some of the people who collected or brought in specimens were: F. F. Snelson, Jr., F. M. Shearin, E. E. Stanback, W. W. Smith,

H. Perkinson, R. G. Warren, D. E. Louder, D. R. Zehr, and J. R. Davis.

**Botany**—27. Only during the second half of the biennium was the botany program active. During this period approximately 500 botanical specimens were collected, identified, pressed, dried, and mounted. Labels, with complete data concerning identification and locality, were filled out. This was the initial step taken in establishing a herbarium at the museum. Seasonal collecting soon filled the cases procured for botanicals.

**Archeology**—59. Pieces of Indian pottery, points, and fossil specimens were not as abundant during this biennium as previously. Yet much that was brought in was more significant than some mentioned in past reports. Among those who donated finds were: T. J. Baxter, Henry T. Hicks, James L. Marshburn, and Mrs. Frank Folger.

### LOANS

Since a museum serves as a repository for many items that are not generally obtainable elsewhere, it is called upon at times to help in special assignments when the need arises. For research and other uses, loans were made as follows to:

Tulane University—1 collection of fish

Auburn University—1 snake

Louisiana State University—51 snakes

Southern Illinois University—Portions of 3 seal skeletons

Columbia (S. C.) Science Museum—17 amphibian larvae

Chesapeake Biological Laboratory—15 salamanders

Cornell University—248 fish specimens

Duke University—86 lizards

N. W. State College of Louisiana—55 snakes and 5 color slides.

Illinois Natural History Survey—30 frogs

U. S. National Museum—13 fish specimens

N. C. Department of Archives & History—22 photographs

Among gifts, transfers and exchanges, the following were recorded:

Detroit Zoological Garden—3 snakes

University of Illinois Museum—9 snakes

University of Michigan Museum—2 snakes



San Diego Zoological Garden—1 snake  
 Illinois Natural History Survey—197 fish  
 U. S. National Museum—1 salamander paratype

### PUBLICATIONS

The book, "Birds of North Carolina", which was published through the Museum Extension Fund, has been almost completely sold out. The few hundred remaining copies are those which had imperfections in the color plates.

A second order was made for 25,000 copies of the pamphlet, "Poisonous Snakes of Eastern United States", and already half of them have been sold.

Arrangements were made to take over the reprinting of a popular booklet, "Freshwater Fishes of North Carolina", which will be distributed and sold by the museum at cost.

For the convenience of visitors, the following materials, published by other State agencies, are sold (at cost) at the reception desk:

Indians of North Carolina  
 Forest Trees of North Carolina  
 Mineral Localities of North Carolina

The multilith series of 30 information sheets relating to the museum and its contents are presented to teachers and to visitors upon request. An estimate of one-half million sheets were passed out during the biennium.

Through use of the Museum Extension Fund, we are fortunate in being able to render further service to the public by publishing materials based on the museum's own findings, and to secure other inexpensive publications on natural history for sale at the reception desk. (This fund was initially set up some years ago by Mr. Harry Davis and he is now serving as Museum Extension Fund Treasurer *gratis*). The present assets of the Fund, on June 30, 1968, were as follows:

In Savings .....	\$17,789.00
In Checking .....	1,500.00
Total .....	<hr/> \$19,289.00

### ADVISORY COMMISSION

The Advisory Commission of the museum was established by enactment of H.B. 1027 in the 1961 General Assembly. The

duties of the Commission are to formulate policies for the advancement of the museum; to make recommendations to the Governor and to the General Assembly; and to assist in promoting and developing wider and more effective use of the museum as an educational, scientific and historical unit of state government.

The past appointees of the Governor were reappointed for a full term: Hon. Basil D. Barr, West Jefferson; Micou F. Browne, Raleigh; and Mrs. Roy A. Cooper, Nashville. Ex-officio members are: State Forester Ralph Winkworth; State Geologist, Stephen Conrad; Director, UNC Institute of Marine Science, Dr. A. F. Chestnut; Director of Wildlife Resources Commission Clyde P. Patton; Superintendent of Public Instruction Dr. Charles F. Carroll; Commissioner of Agriculture James A. Graham; and Museum Director William L. Hamnett. There are ten members on this Commission.

The Commission members wholeheartedly support the program being carried out at the museum, and render needed help when called upon to support or assist the program.

#### PERMANENT PERSONNEL

Director Emeritus.....	Harry T. Davis (Ret.)
Director.....	William L. Hamnett
Curator of Education.....	Eugene T. Upchurch
Curator of Exhibits.....	Jean DuVal Kane (resigned)
Curator of Zoology.....	William M. Palmer
Curator of Botany (trainee).....	Mrs. Carolyn Wyland
Museum Secretary.....	Grace John
Secretary.....	Mary Weathers
Cabinetmaker.....	J. Fred Vester
Preparator.....	Charles Leibrandt
Receptionist.....	Mrs. Sara Prince
Maid.....	Ludie Ashe
Messenger.....	Hezekiah Goodson
Messenger.....	Robert Talley
Curator Marine Museum.....	Mrs. Ruth Deyo
Janitor, Owen Dunston, resigned	
Janitor, William Pace, resigned	
Janitor, Lawrence Hinton, resigned	



## TEMPORARY EMPLOYEES

James Hunt, Summer Assistant 1966  
 Katherine Purcell, Summer Assistant 1966  
 George Hearn, Summer Assistant 1966  
 James Hunt, Summer Assistant 1967  
 Nancy Isphording, Summer Assistant 1967  
 Mike Browne, Summer Assistant 1967  
 Charles Kirk, Summer Assistant 1967  
 Katherine Jackson, Summer Assistant 1968  
 Candace Bullard, Summer Assistant 1968

Mr. Jean DuVal Kane, Curator of Exhibits, resigned July 14, 1967, to accept the position of Chief Curator, Valentine Museum, Richmond, Virginia.

Mr. Eugene Talmadge Upchurch, after many years of teaching natural science in Wake County and in Raleigh City Schools, joined the staff July 15, 1967, as Curator of Education.

Mrs. Nancy Carolyn Wyland—nee Helms—upon graduation from UNC-G, joined the staff June 15, 1967, as Curator of Botany.

The museum at present has a staff of 12 permanent members effectively performing their individual assignments and joining together in a concerted team effort in maintaining the high degree of efficiency expected from the division.

During the summer months of the biennium, a total of 8 temporary employees served in various aspects of museum work. Each was either majoring in biology or in teaching, or possessed a special talent that was useful in exhibit and educational work. Two senior Girl Scouts, Miss Kim Bass and Miss Margo Lawson, served as voluntary guides to the Museum on week-ends during the winter months.

## MARINE MUSEUM

The Hampton Marine Museum, Morehead City, a branch of the State Museum, was open to the public from April through September during each year of the biennium.

The attendance figures reflect the popularity and usefulness of the museum to this region of the state.

July, August, September 1966.....	6,106
April, May, June 1967.....	6,714
July, August, September 1967.....	11,512
April, May, June 1968.....	7,678

Other than summer visitors from North Carolina, and visitors registered from 36 other states, the museum was used considerably by school groups (107), church groups (16), private camps (14), scouts (7), Headstart Program (13), and ESEA (5).

This museum has 77 marine fish mounts, and one each of the following: dolphin, pigmy sperm whale, harbor seal, wildcat, osprey, gull, tern, sandpiper, canebrake, pigmy and diamond-back rattlesnake and copperhead. In several cases amphibians, mollusks, rocks and minerals indigenous to the region may be seen.



## PUBLICATIONS DIVISION

MRS. M. PAULINE DECOSTA

*Director*

The Publications Division, unlike other divisions of the department, is neither a regulatory nor a service organization in the strict sense of those words. Yet, it performs functions in both categories that assist both the internal workings of the Department and aids the department in services to the public, directly or through its regulatory efforts.

While its primary function is that of information dissemination, the division's work cuts across four major categories, each with its own numerously varied adjuncts.

Coupled with the multi-faceted character of its work has been a continuation of the ever increasing tempo of new findings, regulations and services affecting agriculture and the ultimate consumer, and originating at both the state and federal levels. All these demand greater public attention.

The first category, direct dissemination of information to the public, takes the form of press releases, special articles and the publication of a semi-monthly paper, *Agricultural Review*. While the releases and special articles are read by hundreds of thousands, the *Agricultural Review* reaches a more well defined audience now numbering nearly 87,000 people, all of whom have a direct interest in the subject matter of most of the informational articles published.

During this biennium the *Review* has carried more than 800 articles along with other information pieces to help fill the need of the farmers and consumers to keep informed. In addition the *Review* has directly assisted farmers in their organizations with a free "Farm Wants" service. This service, with the ever-increasing cost-price squeeze in farming operations, has aided



farm people tremendously.

The Agricultural Review cooperates to the fullest possible extent with other federal and state agencies which have programs of interest to our readers, within the limitations of space.

From year to year there are continuing changes in federal support programs, new federal quarantines, new federal requirements on the use of pesticides or levels of pesticide residues, new farm programs launched with the view to improving agriculture at the estate or regional level and similar matters all vitally affecting North Carolina farmers and consumers. These are all very much a part of the duties of this Division as information office.

Publication in the Review of violations of laws administered by the Department, where these can be summarized to fit into our limited space, prove to be a most effective tool in enforcement of the regulations.

Due to the increasing demands and urgency of many of these on the space in the Agricultural Review, additional funds obtained has permitted the Division to print 39 eight page issues and 9 four page issues during the 1966-1968 Biennium. Yet keeping pace with the increasing demand on this paper is a perennial problem. Its mailing list is kept "live" in every sense of the word. Names are added only by direct request from individuals wishing to receive it and the list purged of names of those who do not themselves notify us of the change of address, leaving it to the Post Office Department to do so after a time lapse specified in the Postal Regulations. Yet the demands for this paper increase every year and indications of its valuable service to our readers continue to come to us by word of mouth and hundreds of letters of appreciation.

We have had to increase the printing of this publication from approximately 81,000 at the beginning of this biennium to 87,000 as of July 1, 1968. This increase of 6,000 during the 1966-1968 biennium compares with an increase of approximately 4,000 during the 1964-1966 biennium. And, of course, demand for "Farm Wants" space increases as the mailing list grows.

In every phase of its work, the Publications Division's responsibilities grow as demands upon the Department as a whole increase. In addition to new programs and responsibilities placed in the Department there are multiplying complexities within each of these responsibilities as they relate to consumer services and regulatory programs. These, in turn, require an ever greater



volume of work in the division's function not only as the information office but also in its service to the Board of Agriculture.

The second category of Publications Division work is acting as a clearing-house of information for the department. This is a dual-purpose role, serving the department's 18 divisions and the general public as an information center. In this category are many non-recurring services too numerous to list individually. Of a continuous nature, however, is the handling of thousands of requests for information which come to the department each year by letter, telephone and personal visits.

In its capacity as a clearing-house, the Publications Division is called upon to prepare or correlate various special reports dealing with some or all phases of the department's work. These often involve considerable research.

The division's third category of work ties in closely with the first and second. In rendering secretarial service to the Board of Agriculture the division's staff keeps fully informed of not only the department's service and regulatory programs, but of their background as well. This kind of knowledge of the history of department programs, the steps in developing regulatory measures, and other such details is essential in our work as an informational division.

In addition to keeping minutes of meetings, secretarial service to the board include advertising and recording public hearings; codfying, printing and filing regulations as required by law; maintaining a master set of all regulations and responsibility for revising and reprinting the various chapters from time to time. A corollary responsibility is the printing of laws administered by the department, after checking them with the statute books to embody amendments enacted from time to time by the General Assembly.

Special projects under this category carried out during this biennium were the re-coding of one chapter of regulations, subdivision and re-coding of another chapter, and coding of two new chapters. All four of the chapters were lengthy and complicated, requiring many hours of work in setting up the codes, checking and re-checking cross references, proof-reading, etc. These projects were in addition to the usual work of revising regulations for reprinting with all amendments.

The technical complexities involved in so many of the Department's regulatory responsibilities have necessitated appointments of numerous special committees to explore the needs and make

recommendations for regulatory amendments to the Board of Agriculture. Publications Division staff members must attend most of these meetings to be sufficiently informed to help properly prepare and code the regulations when presented. We must also attend to prepare news releases on developments, so that those concerned will be fully informed when these matters are discussed in public hearings.

The fourth category of activities of this division is editing and printing departmental publications. In addition to *Agricultural Review*, this includes a series of four bulletins each year, three of which report, respectively, on the inspection and analyses of feeds, fertilizers and insecticides in connection with the department's enforcement of laws covering these materials. The fourth is a market report on tobacco.

The director of this division works closely with the Commissioner and Assistant Commissioner on various kinds of special projects which do not exactly fit into the four categories of work mentioned, broad as those categories are. One such during this biennium was work necessary for opening and dedicating the Agricultural Hall of Fame. These included designing and supervising decoration of the exterior of the Hall of Fame Room, helping with the format for the programs, and numerous other time-consuming duties. This is but one illustration of the kind of special projects which properly belong in this division, but cannot be categorized.

#### PUBLICATION DIVISION NEEDS

As stated earlier, demands on this division increase in direct proportion to increased responsibilities placed in the Department of Agriculture, and to a marked degree in proportion to increasing complexities in agricultural programs of other agencies. As a result, the work of the Publications Division has tripled in the past 12 years without any increase in permanent personnel. The demands have been met by sacrifices on the part of the entire staff, who have worked overtime, taken leave only a day or two at a time and continuously exerted themselves to the utmost limit.

The division has two items in its budget request which will help to relieve some of this heavy overload. One is for an additional secretary, which will not only help to relieve an overload



on the present secretary, but will also relieve the director and assistant director of some clerical duties which they must perform because the one secretary now in the division has more than she can do.

The second request is for an additional Communication and Information Specialist II. Currently, there are only two writers on the Publication Division's staff and it is impossible for these two to keep pace with the informational needs of the public concerning this Department. The importance of better and broader communications is sharply high-lighted by the growing need of the public to know more about the many consumer services performed in this department. There is a great need for one staff member to be able to devote a considerable portion of time to the needs of the audio visual news media who are urgently interested in carrying information on the department's work and whose needs require some highly specialized qualifications.

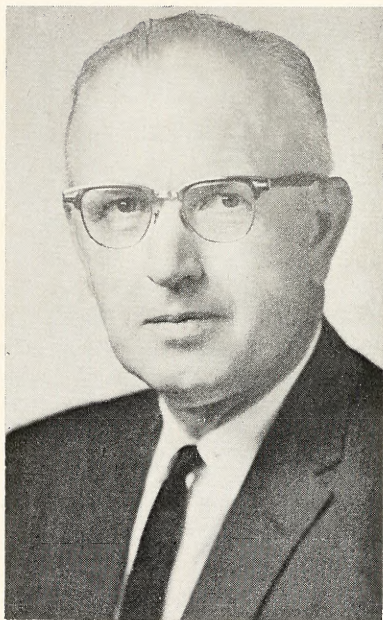
The information functions of the Publications Division are growing in importance. Members of the press, civic groups, individuals in all kinds of occupations are each year actively seeking information on agriculture and the work of this department in increasing numbers. The growing realization of agriculture as a foundation of a great multiplicity of industries increases the need to know and the number of people who need knowledge. This division's budget request must reflect its responsibility for meeting the need.

# DIVISION OF RESEARCH STATIONS

CECIL D. THOMAS

*Director*

## INTRODUCTION



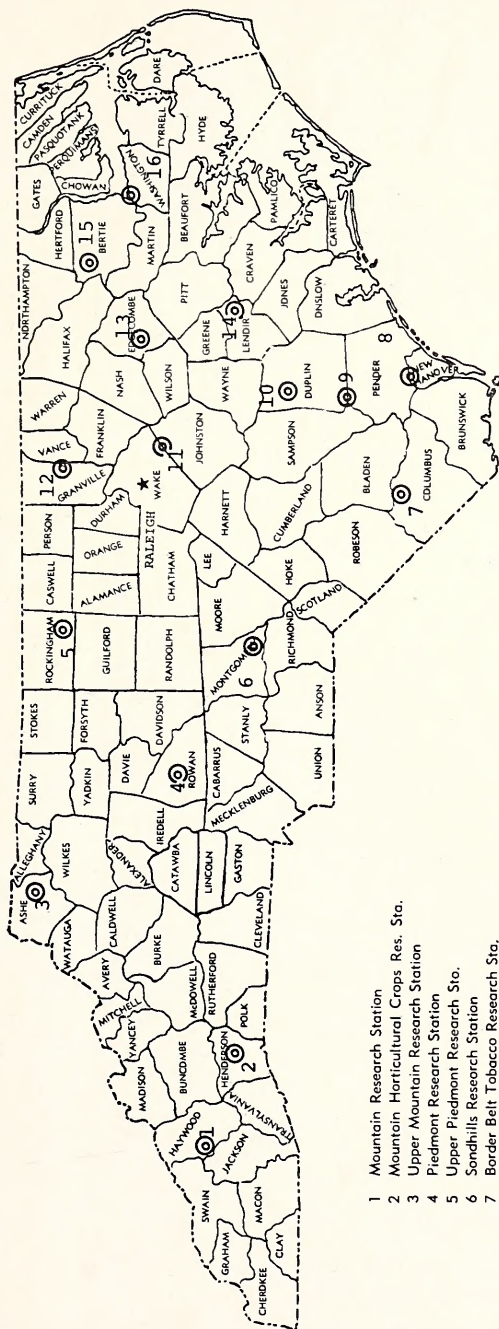
This division is responsible for operating 16 outlying research stations located in the various regions of North Carolina. Nine of the stations are budgeted in the Department of Agriculture and seven are budgeted in the North Carolina State University Agricultural Experiment Station. This is a joint undertaking of the two agencies and the Director of Research Stations is a joint employee.

The division has the responsibility of directing all operations including budget development and management, personnel employment and management, the development of buildings and facilities, purchasing supplies and services, and in fact all business aspects of the stations. Each station has a resident manager officially classed as superintendent who is a college graduate, and the superintendent has his own operating staff including a secretary, a foreman, or herdsman or other semi-technical personnel as required by enterprises on the station and the necessary farm equipment operators and general farm labor. This basic group has the responsibility for all farming and research operations on the respective units.

Research projects are designed and supervised by scientists of the North Carolina State University Agricultural Experiment Station who commute to the stations as their projects require technical supervision.



LOCATION MAP  
RESEARCH STATIONS  
N. C. State Univ. Agric. Expt. Station  
N. C. Department of Agriculture



- 1 Mountain Research Station
- 2 Mountain Horticultural Crops Res. Sta.
- 3 Upper Mountain Research Station
- 4 Piedmont Research Station
- 5 Upper Piedmont Research Sta.
- 6 Sandhills Research Station
- 7 Border Belt Tobacco Research Sta.
- 8 Horticultural Crops Research Sta.
- 9 Coastal Plain Research Station
- 10 Coastal Plain Vegetable Res. Sta.
- 11 Central Crops Research Station
- 12 Oxford Tobacco Research Station
- 13 Upper Coastal Plain Res. Sta.
- 14 Lower Coastal Plain Tobacco Res. Sta.
- 15 Peanut Tobacco Research Station
- 16 Tidewater Research Station

## SIGNIFICANT DEVELOPMENTS

Of importance to the stations is the fact that the 1967 legislature appropriated considerable money for capital improvement projects. This is of particular significance because there were no appropriations for the previous biennium. Plans and specifications have been developed for most of the projects approved and a number of the capital improvement programs have been completed. Reference will be made to significant developments coming from capital improvement appropriations in a review of stations.

**PEANUT STATION**—The total program at the Peanut Station was given a great boost with the construction of a new peanut drying facility which involves six drying wagons that will handle a volume of 40,000 pounds of peanuts at one time. This facility is equipped with two stacked fans and matching LP heaters. Also work has begun on an irrigation system for this station, and two deep wells to supply the water have been drilled. Hopefully the new irrigation system, which can be effective on over 100 acres of experimental projects, will be completed for the 1969 crop year.



**Peanut Drying Facility—Peanut Belt Res. Station—Bertie County**



**TIDEWATER STATION**—The Tidewater Station made notable progress in having 15,347 square feet of feed lot area for the beef cattle program. In livestock programs, the systematic cross-breeding swine project was reorganized within the past year by the purchase of 48 new gilts and nine boars for the initiation of a new phase of the work. In beef cattle research a new program was initiated relating specifically to weaning weight and postweaning gains in beef cattle.

**UPPER COASTAL PLAIN STATION**—Several building projects were approved for this station, including a new office building, fertilizer and pesticide storage, beef cattle feeding facility, and two workers dwellings. Plans are well along for the construction of these facilities and hopefully most of the work can be done before the end of the year. In addition to these items a bulk tobacco barn was erected and put into use for the first time in 1968. This barn should provide a good test of the feasibility of curing experimental plots in bulk facilities. A number of modifications were made to facilities in the Swine Development Center during the biennium in order to remain as up to date as possible. Although there are not as many visitors to this project as when it was first initiated there still are many interested visitors and this program provides needed information for swine growers in eastern North Carolina.

**LOWER COASTAL PLAIN TOBACCO STATION**—This is the newest station in the system and in 1968 the total program had fully developed and, among other crops, involved 8.1 acres of tobacco. A rather significant fact here is that considerable wheat has been grown as a rotational crop and demonstrations were established in this wheat acreage which proves to be of much interest and value to farmers in the area. Considerable tile drainage was done during the biennium to provide better growing conditions for the various crops involved in the research program.

**COASTAL PLAIN VEGETABLE STATION**—This station is operating on rented land and is the only one in the system not owned. In order to provide additional land area for research project leaders to conduct important work the leased acreage was increased from 45 to 55 acres in 1968. The program here with vegetable crops is very extensive and far reaching in its influence.

**COASTAL PLAIN STATION**—According to the North Carolina DHIA 1967 Annual Report the Jersey herd at this station was the top Jersey herd in the state with an average milk production of 10,472 pounds and an average butterfat production of 536 pounds. By way of comparison the 1958 record was 7,885 pounds of milk and 465 pounds of butterfat. Two new poultry projects have been initiated, one being the effects of managerial practices on economic performance and determining the level of nutrition for the most economic performance of broilers.

**HORTICULTURAL CROPS STATION**—There has been an expansion of research at this location and an additional 13 acres of land were leased for blueberry work. This is in addition to the 59 acre state-owned tract which has been operated for a number of years. Significant changes involve personnel, as two additional research workers were added to the station staff. One is a horticulturist and the other a plant pathologist and both will be working primarily with blueberries. With the additional land and additional research facilities a number of new items of equipment were obtained and plans are being made for the construction of a bulb storage building which will also contain space for certain types of laboratory research with blueberries.

**BORDER BELT STATION**—There are no new developments with respect to added facilities. However, improvement was made to the foreman's dwelling and improvements were made to roads and access routes to the different field areas. This station also has concentrated on lowering the cost of operations and saving labor by the use of an automatic tractor drawn transplanter, helping a great deal in this respect. Also the harvesting of experimental tobacco plots with a mobile harvester, which takes the entire crew into the field on a covered platform, has greatly improved the tobacco harvesting operation.

**CENTRAL CROPS STATION**—During the biennium this station acquired a small but good dwelling and a small lot on the south side of the highway. This will provide housing for someone on the station staff and will also help to fulfill a caretaking function for that part of the station. Plans are being developed for an additional implement storage shed and a fertilizer and insecticide storage building. It is anticipated that these will be erected before the end of the year. The tobacco packhouse was destroyed by fire early in 1968. This packhouse has been replaced and will be ready for the 1968 tobacco crop. The re-





**Tobacco experiments—Border Belt. Tob. Res. Station—Columbus County**

search program at this location remains a heavy one and is very demanding from the standpoint of labor and equipment required.

**OXFORD STATION**—There were no state appropriations for new facilities at this station. However, the U. S. Department of Agriculture has begun the construction of an additional office and laboratory building which will provide for increasing tobacco research at this location. In addition to the laboratory building the USDA has recently constructed two greenhouses and a headhouse with some laboratory facilities. Additional facilities erected by the USDA means that they will have about 20 more full time employees in research when the laboratory building is completed.

A major development here during the past biennium was the change occurring in organization. Prior to July 1, 1967, the superintendent was a USDA employee under Civil Service and



receiving only a small portion of his salary from the N. C. Department of Agriculture. As a result of legislative action and appropriations, a new superintendent was employed by the NCDA on July 1, 1967. This individual will be in charge of all field operations and will be responsible for administering state funds. The USDA coordinator will devote his time to handling administrative and program matters of a federal nature. The combined job had reached a point where it was too demanding on one person.

**UPPER PIEDMONT STATION**—Developments at this location center around a continuation of reshaping fields, roads, and fences in order to improve the total operation. A number of meadow strips have been constructed to assist with water control. New facilities resulting from the 1967 legislature include irrigation ponds, silos and beef cattle feed facilities, and an implement storage building, among other items. This station experienced a rather severe ice storm in February, 1967, damaging many trees and requiring much time and effort in cleaning up the damaged areas.

**SANDHILLS STATION**—In order to provide irrigation for new land purchased in 1966, a 9.4 acre pond was built and additional underground irrigation lines were laid. During the biennium 45 acres of trees were planted for different phases of the research program. Early in 1968, with a very heavy set of peaches on the trees, a "crab" or tractor mounted tree shaker was obtained to assist with thinning this crop. This machine proved to be very effective and resulted in the saving of much hand labor. The peach breeders are considering the release of nine new peach varieties this year. A large part of the work leading towards the development was done at this station.

**PIEDMONT STATION**—The 1967 legislature provided funds for an irrigation system. Three ponds have been constructed for a water supply and much of the irrigation equipment has been purchased. Actually, two irrigation systems will be developed, one being based upon an electrically operated pump and the other powered by gasoline engine. These irrigation systems will be an important tool in conducting experiments with field crops.

Other capital improvements for the biennium were two workers dwellings, a beef feeding facility including silos, silos for the dairy herd and a renovation of what is known as the experimental barn providing space for cows that are on the various experiments. During the biennium dairy grazing paddocks were





**Mechanical tree shaker (for thinning peaches)—Sandhills Res. Sta.—Montgomery Co.**

reseeded and a new five year management study is under way. The old beef grazing paddocks were revised and all division fences were taken down in preparation for a new system.

**UPPER MOUNTAIN STATION**—Developments at this location included the construction of new facilities to be used in support of the research program. An additional sheep barn was erected which will be used largely for replicated nutritional studies with ewes. A dwelling is being erected for the assistant herdsman which will place him near the livestock enterprise. A new well was drilled to provide water for the main livestock barns. The research program was revised somewhat in that beef cattle work went to a cow-calf program, rather than the stocker enterprise which has been conducted in the past.

**MOUNTAIN STATION**—A new workers dwelling was provided for this station and this will be erected during the year 1968. New heating systems have been installed in the tobacco barns to provide better humidity and temperature control. An important item of equipment acquired is a hydraulic extension mower for use on steep slopes in the apple orchard. A 3,250 bushel capacity grain bin was obtained during the year.



A significant development was a change in the organization of the tobacco research program at this station. The USDA no longer maintains a field station for burley tobacco research here. The responsibility for the USDA part of the program is now vested in N. C. State University. North Carolina State's representative in the burley tobacco program is headquartered at this station and operates both as a research and extension specialist. Some federal equipment is still provided and a scientific aid for tobacco research is furnished by the USDA.

**MOUNTAIN HORTICULTURAL CROPS STATION**—The major capital improvement item for this station involves a horticultural building which will include storage and work areas and also controlled atmosphere storage units. This will provide facilities for considerable research on keeping quality of fruits and vegetables and many other aspects of fruit and vegetable production. Within the past year a power line has been erected across the station to serve as a main transmission facility for the power company.



Orchard Sprayer—Mountain Hort. Crops Res. Sta.—Henderson County



## PERSONNEL

There were several personnel changes during the biennium, including the retirement of Mr. J. M. Carr, long-time superintendent of the Oxford Tobacco Research Station, who was replaced as station superintendent by Mr. Billy Ayscue. Mr. Ayscue previously was Administrative Officer in the Research Stations Office and his replacement in this capacity was Mr. Pat Kelley.

Following the resignation of Mr. Horace Cox as superintendent of the Upper Coastal Plain Station, Mr. Warren Bailey, who has a long period of service as superintendent at several stations, was appointed to the post. Bailey had been in commercial work for the past three years.

Mr. Ben Kittrell, Superintendent of the Lower Coastal Plain Tobacco Station, transferred to the Extension Service as tobacco specialist and his place at the Kinston station was taken by Mr. S. T. Barnes, who had been superintendent of the Coastal Plain Vegetable Station at Faison.

Mr. Ted Luther, Dairy Supervisor at the Piedmont Station left state work to operate his own dairy and his place was taken by Mr. Merle King. Mr. Graham Tunstall, Livestock Supervisor at the Upper Piedmont Station, accepted employment with a commercial farming operation and his duties were taken over by Mr. Douglas Dalton.

Mr. Sam Childs, Supervisor of the Random Sample Poultry Test at the Piedmont Station during the entire life of this program, transferred to the Poultry Department at N. C. State University and was replaced by Mr. Ted Burleson, Poultryman at the Mountain Station for many years.

There were other changes particularly in the farm worker category but specific instances will not be given. The turnover in this group has been rather high due to the competition from industrial plants in areas around the stations.

## RESOURCES

The outlying stations provide many things in support of the research program and one of the most important elements is land. Much basic research is accomplished in laboratories and greenhouses, but all new varieties and new developments per-

taining to cultural practices must be tested under a wide range of conditions before recommendations can be safely made. The 16 stations provide land under varying conditions of elevation and soils where tests can be made and repeated until facts are established. The availability of adequate land for field tests and experiments with crops and livestock, under conditions similar to actual farm situations, is essential to a complete and well-rounded research program.

Total land in the stations as of December 31, 1967, amounted to 6,154.9 acres owned by the state and 147.1 acres rented. In addition, the state owns a tract consisting of 1,064 acres of undeveloped land adjacent to the Tidewater Station in Washington County. Thus the total of state-owned land in the research stations is 7,218.9 acres.

Of the total land resources, cropland accounts for 2,324.1 acres, and open pasture occupies 1,106.5 acres. There is a considerable acreage of woodland and a sizable acreage is used for roads, meadow strips, irrigation ponds, and buildings. In 1967 a total of 1,401.1 acres were used for research plots. This represents the most intensive possible use of land because details involved in planting, cultivating and harvesting field plots is far greater than required for a like area of the crop grown commercially.

Indicative of total resources of the stations as represented by land, facilities, equipment and other items is the total inventory. As of December 31, 1967, the valuation of all property on the 16 stations amounted to \$3,546,810. Even so, land values for the purpose of this inventory have been established at the initial cost plus the value of improvements to land, and do not reflect real estate values.

A major and essential resource is personnel, including supervisory personnel and the labor force. This is the key to successful operation of the stations and without competent people all the other resources would be useless.

### RESEARCH PROGRAMS

Although heavily involved in the research program, the State Department of Agriculture is not a research agency. Experimentation on the stations is directed by the North Carolina State University Agricultural Experiment Station. However, for the purpose of giving a complete picture, a brief description of the principle lines of work at each station follows:





Sheep—Upper Mountain Res. Station—Ashe County

**PEANUT STATION:** Peanuts (breeding, rotations, fertility, pesticide interactions, pesticide residues, insect control, seed quality, harvesting, curing, weed control and disease control), corn breeding and genetics, cotton (breeding, liming and fertility), sweet potatoes breeding and soybean fertility and insect control studies.

**TIDEWATER STATION:** Forage crops, corn hybrids, soybeans, small grain, Irish potatoes, other vegetable crops, muscadine grapes, beef cattle and swine.

**UPPER COASTAL PLAIN STATION:** Corn hybrids, cotton, soybeans, tobacco, peanuts, small grain, grain sorghum, forage crops, hogs, beef cattle, weed control and special new crops.

**LOWER COASTAL PLAIN TOBACCO STATION:** Tobacco (varieties, diseases and insect control, cultural practices, plant bed studies), corn and small grain.

**COASTAL PLAIN VEGETABLE STATION:** Vegetable crops (varieties, cultural practices, insect and disease control, processing qualities), blueberries and strawberries.

**COASTAL PLAIN STATION:** Poultry, dairy, pasture and forage crops, muscadine grapes, strawberries, corn hybrids, soybeans, sweet potatoes, and special new crops.

**HORTICULTURAL CROPS STATION:** Vegetable crops (breeding, new introductions, cultural practices, disease and in-

sect control), bulbs (breeding, cultural practices and storage), blueberries and ornamentals.

**BORDER BELT TOBACCO STATION:** Tobacco (varieties, cultural practices, sucker control, fertility studies, tobacco genetics, insect and disease control, plant bed studies) and new crops.

**CENTRAL CROPS STATION:** Corn breeding, cotton, soybeans, tobacco, peanuts, small grain, forage crops, special new crops, vegetable crops, orchard (apples, peaches, pears), brambles (raspberries, blackberries, dewberries), muscadine grapes, tobacco plant bed studies, irrigation studies, mechanical tobacco harvesting, peanut harvesting, corn drying studies, and swine evaluation.

**OXFORD STATION:** Tobacco (breeding, variety tests, cultural practices, plant bed management, disease and insect control, curing studies, irrigation), tomatoes (wilt studies).

**UPPER PIEDMONT STATION:** Tobacco (varieties, cultural practices, insect and disease control, plant bed studies), and beef cattle (breeding and management studies).



Beef cattle, upper Piedmont Research Station

**SANDHILLS STATION:** Peaches, apples, muscadine grapes, and special new crops. Work is underway on varieties, cultural practices, insect and disease control, soils, irrigation, grading, storage, and packing of fruits.



**PIEDMONT STATION:** Small grain, corn breeding, cotton, soybeans, special new crops, forage crops, orchard, dairy cattle, beef cattle, and poultry random sample test.

**UPPER MOUNTAIN STATION:** Beef cattle, sheep, burley tobacco, corn breeding, pasture and forage crops, and potatoes.

**MOUNTAIN STATION:** Poultry, dairy, burley tobacco, corn breeding, small grain, pasture and forage crops, new crops, orchard (apples), hydrologic studies (TVA).

**MOUNTAIN HORTICULTURAL CROPS STATION:** Vegetable crops (fertility, varieties, cultural practices, disease and insect control, processing qualities), orchard and vineyard (varieties, fertility, insect and disease control, dwarf rootstock studies with apples). Also there is work with strawberries, blueberries, raspberries, and mechanical harvesting of vegetable crops.

### SERVICE FUNCTIONS

As pointed out previously the 16 research stations in North Carolina serve primarily as field laboratories for experiment station scientists and this is an essential function, but these stations located in different areas of the state serve many other purposes. Each station provides a place where farmers and businessmen alike can go to see research in progress and view various tests and experiments being conducted and from this gain a better knowledge of developments which will affect their own operations in the years ahead.

Field meetings are scheduled in many instances, at which the public has an opportunity to hear an explanation of the different experiments by research scientists responsible for conducting such experiments. Through these field meetings tobacco growers, for example, can learn how new varieties are developed with an explanation of the crosses which were made and the characteristics to expect in new lines.

In addition to these organized field meetings there is an opportunity for small groups and individuals to visit the stations at other times in order to make special studies of specific enterprises or practices. Many agricultural classes at N. C. State University engage in a regular visitation as a part of their training program. Public schools near the stations quite frequently have classes to visit stations as a part of their course work. Business and civic groups on many occasions tour sta-

TABLE I. IMPORTANT DATA ON RESEARCH STATIONS

Station	County	Year Established	Acres of Land Operated	Elev. (Feet)	Average Annual Rainfall (Inches)	Superintendent
Border Belt	(NCDA)	1949	102.0	95	51.28	Wallace J. Dickens
Central Crops	(NCSU)	1936	494.7 (1)	350	51.89	William C. Allsbrook
Coastal Plain	(NCDA)	1905	411.5	51	49.86	Jesse W. Sumner
Coastal Plain Vegetable	(NCSU)	1949	55.0 (2)	160	49.52	Sanford T. Barnes, Acting
Horticultural Crops	(NCSU)	1947	73.0 (3)	10	56.62	J. M. Jenkins, Jr.
Lower Coastal Plain Tob.	(NCSU)	1948	87.2 (4)	70	47.84	Sanford T. Barnes
Mountain Hort. Crops	(NCSU)	1949	223.8 (5)	2,147	50.25	Harley E. Blackwell
Mountain	(NCDA)	1908	388.5 (6)	2,800	45.92	James R. Edwards
Oxford Tob.	(NCDA)	1912	312.5	500	45.36	Billy N. Ayscue
Peanut Belt	(NCDA)	1952	366.0	50	48.92	Wallace R. Baker, Jr.
Piedmont	(NCDA)	1903	1,054.0	800	45.86	Clyde Z. McSwain, Jr.
Sandhills	(NCSU)	1940	517.9	730	46.92	Clarence S. Black
Tidewater	(NCDA)	1912	495.5 (7)	15	53.34	John W. Smith
Upper Coastal Plain	(NCDA)	1902	441.9	100	47.29	Warren H. Bailey
Upper Mountain	(NCDA)	1944	420.5	3,300	53.39	Dana F. Tugman
Upper Piedmont	(NCSU)	1948	868.0	830	43.37	Howell O. Gentry, Jr.

(1) Includes 10 a. rented; (2) 55.0 a. rented; (3) 13.5 a. rented; (4) 4.0 a. rented outlying plots; (5) 40.3 a. used as if owned; (6) 34.2 a. used as if owned; (7) 1064 a. additional owned.



tions near them and, of course, this practice is very worthwhile because of the importance of the research program to the general public.

The stations have many foreign visitors, particularly those who have study arrangements at N. C. State University and while in this country they want to see as many different agricultural operations as time will permit. Visitors in all categories to all stations during the course of a year average about 15,000.

Other agricultural agencies also make use of research stations resources for certain phases of their work. Among these, 4-H Clubs and vocational agricultural classes visit the stations for a study of livestock enterprises and also crops which they may be emphasizing at a particular time. In some cases, livestock on the stations is used for the purpose of training judging teams of 4-H Clubs or vocational agriculture classes.

Stations having flue-cured tobacco in many instances make special plantings of varieties to be used by ASCS personnel in variety identification. Also in the area of flue-cured tobacco, personnel participate in shows and in other ways help with company evaluation of new lines of tobacco. This is a very important program in that the acceptability of new varieties can be determined to a great degree in advance of their production on a commercial scale.

Weather is of great importance to farmers and others and each of the research stations serve an important function as an official weather reporting station for the U. S. Department of Commerce Weather Bureau .

## SEED TESTING DIVISION

GEORGE E. SPAIN

*Director*

At the time this is being written summer crops in North Carolina are being reported as good to excellent in many locations. Stands are good, rainfall has been generally adequate. Some crops now growing, as well as small grain recently harvested, point to possibly new record yields with continued favorable weather.

Among many factors that relate to these efficiencies in production is the ever-increasing awareness, interest and demand for improved seed quality. All the other production resources respond in increased yield only in relationship to satisfactory plant populations which result from planting genetically improved, high germinating seeds, relatively free from contamination. Each planting season finds a basic supply of seeds which is characteristic of the production, harvesting and storage influences from the previous crop year. Direct attention to seed quality evaluation and labeling is, therefore, an annually recurring requirement.

The North Carolina Department of Agriculture has responsibilities in testing seeds to determine the quality characteristics which must be labeled, and in the enforcement of labeling requirements of the North Carolina Seed Law through an inspection and testing program. It also is alert to conditions that may require amendments to the laws or regulations that will result in improved quality of seeds and better efficiency in seed merchandising.





## AMENDMENTS OF REGULATIONS

During the last biennium enforcement of the new regulation restricting Cocklebur in seeds, especially cotton seeds, was implemented. Amendments to the Seed Regulations were passed stabilizing the application of tolerance on sample estimates to more nearly coincide with U.S.D.A. Regulations and other states. The number of noxious weeds permitted was reduced, to be effective January 1, 1969. In the past five years the number of noxious weeds permitted on several species has been reduced from a maximum of 500 per lb., if labeled, to 99 per lb. This is characteristic of a continued upgrading of quality in seeds permitted to be sold in North Carolina.

## LABORATORY TESTS

Routine laboratory tests include a purity examination for percentage and identification of all sample components, and a germination test to determine the percentage of normal seedlings that may be expected from the sample.

In the two years just ended, purity evaluations were made on 11,005 samples, and germination tests on 39,660 samples of crop and vegetable seeds.

Noxious weed seed checks are made on additional quantities of seed other than the amount separated in purity analyses. Noxious weed seed examinations were made on 12,546 samples during the two years.

In addition to the routine examinations certain special tests are made. These include Tetrazolium tests on dormant peanut samples and questionable samples of other species, bio-assay tests on samples of questionable fungicide treatment, phenol tests on wheat samples for variety indication, and cold tests or chemical tests on corn samples for additional quality information. The special tests on corn are not made and reported routinely, but are made on inspector samples for information to the department, and are reported to the processors. During the biennium 1,061 chemical tests and 48 bio-assay and phenol tests were conducted. Over 500 cold tests on corn were made in the laboratory during the spring of 1967, which represented enough seed corn to plant approximately 200,000 acres.

These special tests are invaluable in maintaining efficiency

of operations and alertness to areas of weaknesses in seed distribution patterns.

### INSPECTION

The primary functions of the Seed Testing Division revolve around the inspection of seeds offered for sale in market channels, and the laboratory analyses associated with the samples.

During the biennium inspectors from the division made on-site inspections of 28,303 lots of seeds offered for sale. Samples transferred to the laboratory for germination tests and more precise purity evaluations numbered 3,191.

Inspection samples submitted have almost doubled over the last biennium. Some of this increase has developed in special emphasis inspections for particular species each year. In 1967 corn received special attention, and in 1968 cotton was emphasized. These programs are developed to strengthen areas where additional inspection is believed to be needed, and are incorporated into the program so that it becomes more routine during succeeding years. Peanuts, corn and cotton sampling have been strengthened in such special emphasis programs and then fitted into inspection procedures as an annual pattern.

During 1967 inspectors were used in a special cooperative program to survey and assess the distribution and severity of a new peanut disease, stunt virus. This was in support of efforts by the Entomology Division of this Department and the Agricultural Experiment Station at N. C. State University.

A specialized inspection and testing program is required for tobacco seeds. Each year lots of seed are inspected from each producer, and grown in variety verification tests by the N. C. Agricultural Experiment Station. Mislabeling of tobacco seeds for variety has been virtually eliminated through this effort and through the excellent job each of the current group of tobacco seed producers are doing.

Variety Verification has been emphasized on other commodities. Soybean plantings have been grown several years, the last plantings being of 124 seed lots planted during this period.

### ADDITIONAL ACTIVITIES

Much of the work of the Seed Testing Division is related to activities of other agencies. The samples reported in this section



include samples being tested for certification by the North Carolina Crop Improvement Association, samples of lots of seeds used by the Landscape Division, N. C. Highway Department, and seeds purchased on contract by various state agencies through the Purchase and Contract Division.

The laboratory is visited frequently by study groups from N. C. State University classes, high school or trade school classes, state agency workshops and training sessions, seedsmen and farmers. Numerous specimens are submitted for examination and identification of weed species.

During May, 1968, the division was selected as one of the training sites for a group of Brazilian Seed Control Officials comparable to our Federal and State Seed Control Officials. This study group was preparing to implement the regulatory efforts of a new seed law in Brazil, patterned after the Federal Seed Act, and cooperatively enforced by states in the same relationship as now carried out in North Carolina.

Opportunities are sought to provide information regarding seeds and seed quality evaluation through radio and T. V. programs, news articles and meetings. A significant part of our published information includes monthly summaries of seed law violations in the Agricultural Review.

During the past year a new analyst and inspector have been employed and trained, along with continued training of other analysts and inspectors.

#### NATIONAL ASSOCIATIONS

North Carolina has participated in national and regional seed control official and seed analyst organizations through attendance and committee activities through the years. The supervisor of the laboratory has served on and chaired committees for a number of years in the Association of Official Seed Analysts. The director of the division is now serving an appointment to the Board of Directors of that organization. Also, this organization, with membership from each state of the United States and each Canadian Province, along with the federal counterparts in the U.S.A. and Canada, has accepted an invitation to meet in their annual conference at Raleigh, N. C. during 1970. This will be the first time North Carolina will have served as host state to this national group.

## RESOURCES

Maintaining competent, adequately trained personnel is the most important resource concern of the division. We are fortunate to be at full complement right now, with one new analyst being trained.

Updating equipment is a continuing need. Some equipment in use is not only obsolete, but worn out. A planned replacement schedule is serving very well at this time.



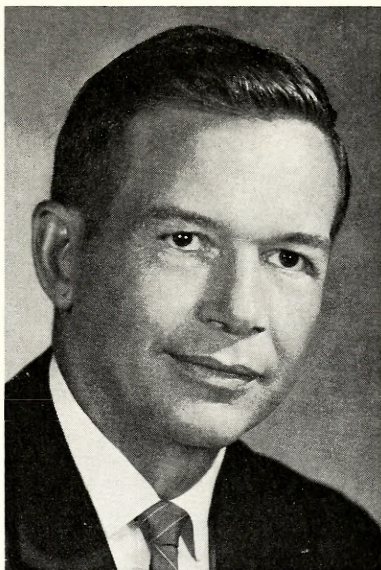
## SOIL TESTING DIVISION

DR. PRESTON H. REID

*Director*

Efficiency of production has been the watchword of the successful farmer during the 1966-68 biennium. Increased production costs without a corresponding increase in prices received have dictated that each acre farmed produce the highest yields possible to reduce the unit cost of production.

Soil testing as one essential step to an efficient production program has been widely accepted. Demands have increased continuously for more and more detailed analyses as a means of predicting the nutrient needs of the fields. Soil testing is widely used by members of the fertilizer



industry as a sound basis of applying plant nutrients. Many companies have provided this service through their own laboratories while other companies have provided the sampling as a service to the farmer and have used the farmer's soil test report from the North Carolina Department of Agriculture laboratory to plan the fertilization program with the farmer.

Changes in fertilizer technology have dictated that farmer practices undergo gross changes during this period. Bulk blended fertilizers, solution fertilizers and suspension fertilizers have been used much more extensively during the last two years. There has been a rapid movement amongst the farmers to broadcasting their fertilizer rather than using the row placement which was common in the past. Many farmers have adopted the practice of applying their fertilizer during the winter months which has greatly extended the rush period of fertilizer deliveries.

All of these changes in former practices have had their effect on the soil testing laboratory. In order for the farmer to get the

maximum benefit from his soil test, it is essential that the soil test report be returned to him more promptly in order that his farming program will not be interrupted awaiting the results. Many of the efforts of the Soil Testing Division during the past biennium, therefore, have been aimed at more rapid analyses in order to provide the farmer the additional services which he needs.

In the 1966-68 biennium, the Soil Testing Division analyzed 149,000 samples for 32,000 farmers. This may be compared to 176,000 samples analyzed for 33,000 farmers the previous biennium. Inclement weather during the 1967-68 winter probably accounts for the reduced number of samples. However, in spite of the reduced number of samples, the total number of determinations performed during this time increased from 1,210,000 during the 1964-66 biennium to approximately 1,380,000 during this biennium.

The use of the soil testing service by florists, home owners and golf courses has continually increased. Of the 32,000 reports sent out during the biennium more than 9,000 were for these groups. In addition to the services provided to the farmers, home owners, and other private organizations, numerous analyses were made for the various research institutions in the state. North Carolina State University, Duke University, Wake Forest University and the University of North Carolina at Chapel Hill submitted some 22,000 soil samples on which we performed 147,000 determinations.

The information program of the Soil Testing Division has been active as a means of increasing the usefulness of the service. Extensive efforts have been put forth to improve the quality of the soil samples submitted and to help the farmer in the interpretation of the soil test results. Each month two news articles are submitted to the county extension chairman of each county for use in his local program. Additional news articles as well as radio and television programs have been disseminated statewide from the central laboratory.

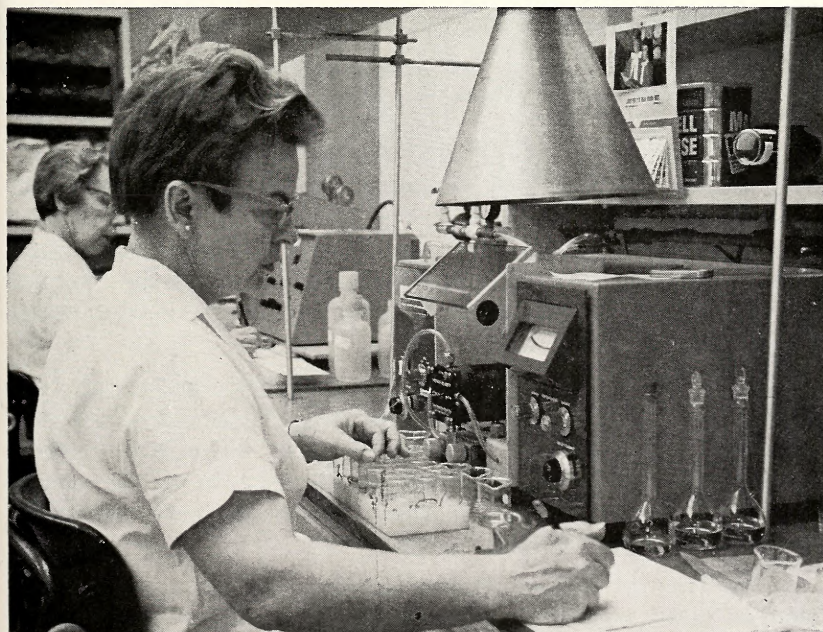
The North Carolina laboratory has been recognized the world over as a leader in soil testing. During the biennium visitors from many foreign countries as well as from other states have visited the laboratory to obtain information on the operation of such a laboratory and method of interpretation of the results.

A significant change in the soil testing program has been the adoption of computers for the handling of the masses of data



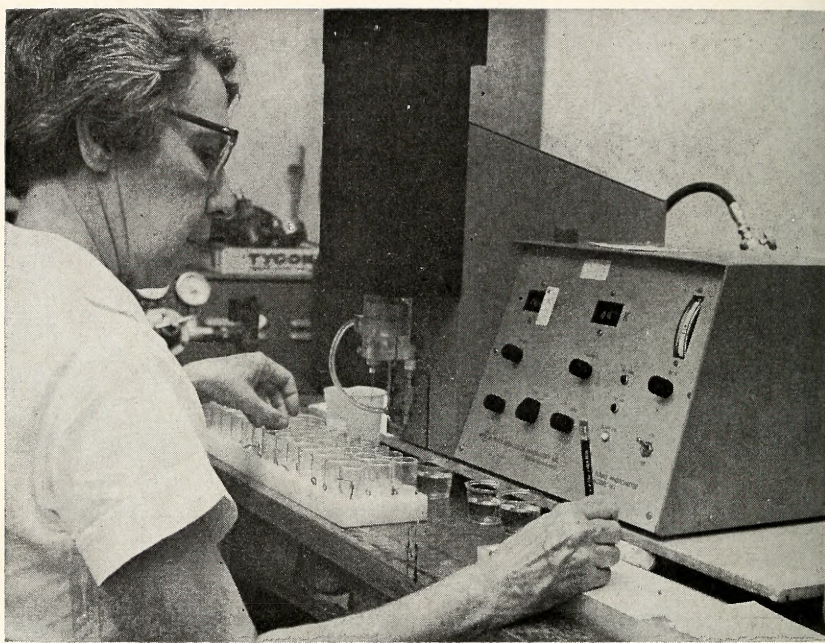


The use of electronic data processing to handle the data and type the soil test reports has reduced the time necessary to return soil test reports to the farmer.



The use of the Atomic Absorption Spectrophotometer has made it possible to determine magnesium and manganese on all soil samples. These analyses have been needed for sometime, but previous methods were unreliable.





**A new Flame Photometer was obtained in 1968 with which potassium readings can be made 4 to 5 times more rapidly than the old instrument which was replaced.**

accumulated by the laboratory. As the computer program has been prepared, it has been necessary to improve the analytical procedures in order to get the data presented in a more efficient mannner. Significant among these changes has been the changing of the information sheet which greatly facilitates the "logging in" process on the soil samples which has always been a bottle-neck in the soil analyses.

The use of soil testing results as a diagnostic tool for the correction of problems involved in the growth of plants has increased tremendously. Samples received from problem areas receive special handling and special analyses in order to get the results back to the farmer in time for the necessary corrective measures to be made as rapidly as possible.

In addition to the soil testing service, the analyses of silage, feed, and grain samples also continued in this biennium. In order to provide this service it was found necessary to charge a fee for this service which provides funds for the operation of the laboratory. There were 1,198 samples analyzed for farmers and



452 samples analyzed for the various research programs at North Carolina State University during this biennium. As livestock production assumes major proportions in the state, the value of this service will become more and more apparent.

### FUTURE NEEDS

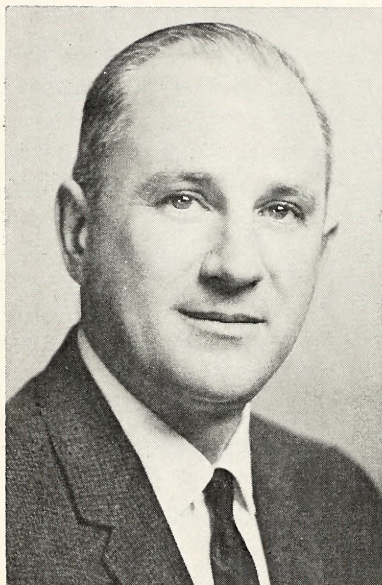
The adoption of improved practices by farmers have removed many of the old yield barriers but new ones are being encountered which dictate the analytical approach to farming. More and more problems are encountered which limit production. If the North Carolina farmer is to meet the demands for food and fiber, additional services must be provided which will help him diagnose his limiting factors. Each year many new chemicals are placed on the market to control the various pests which limit crop production. Services are presently needed which will make it possible for the farmer to determine when such control measures are necessary and to serve as guidelines in the use of the various pesticides.

The facilities of the present laboratories are taxed to their limit. If the additional services are to be provided, additional space must be obtained. A new laboratory is definitely needed to house not only the soil testing and forage testing services but to provide the proposed new services of plant analysis, nematode assay and pesticide residue analysis.

## THE STATE FAIR

ARTHUR K. PITZER

*Manager*



Continuing success of the North Carolina State Fair is increasingly apparent in the fact that 96 of the North Carolina's 100 counties provided 12,097 of the centennial fair's total 13,540 individual exhibits last year.

All but 88 of the overall 3,083 exhibitors were from within the state. Of the non-resident exhibitors, showing 1,443 exhibits, most included livestock, poultry and crafts.

Operating solely on its own revenue, with the exception of state funds for capital improvement, the North Carolina State Fair is now considered among the top ten expositions in the

country, and continues to grow.

The first annual horse show was a major addition to the Fair functions last year and the six-day feature will be even larger in number of entries and interest for the 101st State Fair, October 14-19.

More than \$5,000 in premium monies have been added to this year's edition of the Fair, bringing the total to more than \$78,000. Last year nearly \$73,000 was offered and \$66,840.24 was paid.

From the receipts of the 1967 Fair the following projects will be completed in preparation for the coming event.

A new metal, 60 x 100 foot administration building on the same location will be erected. It will also house the public relations director and the press room in the future, as well as the entry department. The race track will be regraded for stock car racing. It will have elevated curves, storm drainage and metal guard rails.



New lavatory facilities are being added. A complete new lavatory will be located at one end of the Education Building.

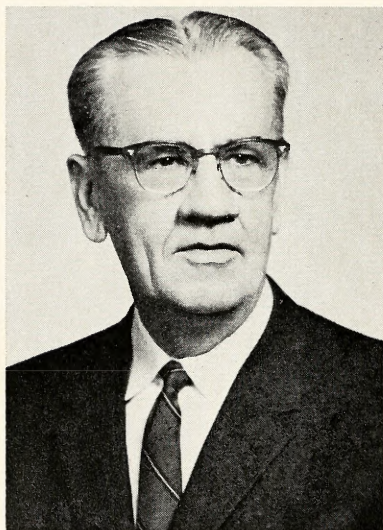
New lights will be put in the same building and extensive painting, both inside and outside is also being borne by State Fair funds.

Appropriated funds have been utilized to include new wiring and lights in the cattle and swine barns. Electric renovation of several areas will be undertaken following the 1968 Fair.

## DIVISION OF STATISTICS

HENRY L. RASOR

*Statistician in Charge*



The Statistics Division is operated cooperatively through facilities of the North Carolina Department of Agriculture and the United States Department of Agriculture. The Statistical Reporting Service of the U. S. Department maintains field offices charged with responsibility for estimates at the state level for each of the fifty states covering the production, price, and value of principal crops and livestock items produced within those states.

The facilities made available in North Carolina through the federal program are augmented by state funds made available through the North Carolina Department of Agriculture, and these two agencies work hand-in-hand without duplication of effort to provide agricultural statistics at the county level and to disseminate agricultural facts in considerable detail to farmers, agricultural workers, processors of agricultural commodities, to the agri-business complex, and to the general public.

The responsibilities of the division are service in nature, as contrasted to regulatory responsibilities of many of the other divisions within the department. During each year the division processes more than 450 separate statistical reports. Many of these reports are scheduled in accordance with national programs promulgated through the Crop Reporting Board of the U. S. Department of Agriculture, thus providing continuity in the reporting system and consistency among the various states in the publication of the national and state reports. Nevertheless, the divi-



sion is also concerned with major undertakings aside from those prescribed under the federal program.

One major undertaking under the state program is the State Farm Census conducted annually in North Carolina. The Statistics Division provides leadership to the counties in the collection of the individual farm reports covering operations of each farm tract within the state. After enumeration has been completed, the data are submitted to the division where they are carefully edited and summaries are compiled for each of the more than 1,000 townships in the 100 counties of the state. This service provides complete enumerations of crop acreage, inventories of livestock for breeding purposes, farm population, and many other items of particular concern to the welfare of farm families.

Results of the State Farm Census provide the basis for revision of state estimates of crop acreage and livestock inventories previously established through accumulation of sample data and make it possible for these estimates to be broken down among the 100 counties of the state.

To supplement information collected through the Farm Census enumerations, annual inquiries are mailed to a large sample of farmers to provide information from which county averages of crop yield per acre and prices received for agricultural commodities may be determined.

By combining the information obtained through these two sources, the division compiles and disseminates county estimates of acreage, yield production, and value of the principal crops produced in North Carolina, as well as annual inventories of major species and types of livestock.

To be of optimum value to the public, the statistical information made available through the efforts of the Statistics Division must be disseminated promptly to farmers, to agricultural workers in state and federal positions, to processors of agricultural commodities, and to all others whose welfare may be affected either directly or indirectly through use of such information.

The information is distributed under penalty indicia, thus the federal agency assumes responsibility for postage and fees charged for mailing. The state agency, on the other hand, assumes primary responsibility for the preparation of copy and for the duplication and dissemination of published reports. The public is kept informed about agricultural condition in North Carolina

through three separate media as follows:

1. Press releases supplied to daily and weekly newspapers and to TV and radio stations immediately upon availability of information.
2. Semi-monthly issues of the "North Carolina Farm Report" distributed free of charge upon request to some 8,000 constituents. This publication contains the bulk of the agricultural statistics for North Carolina made available during the two preceding weeks.
3. The annual issues of "North Carolina Agricultural Statistics." This publication is distributed to approximately 6,000 persons or concerns upon request and contains current and historical series of statistical information at both the state and county levels. It is particularly valuable to all governmental agencies whose responsibilities are directly or indirectly concerned with agriculture or agri-business. Also, it is used by the many commercial concerns engaged in the servicing of our state's agricultural economy and in the location of sources of supply of agricultural commodities for the consumption of the entire population.

Although the functions are mainly recurring in nature, the division continues in its efforts to meet the demands for additional statistical information. Thanks to the installation of automatic data processing facilities provided through federal funds, it is now possible for the division to process raw data with considerable increase in efficiency.

Beginning in fiscal year 1967-68, monthly summaries of fertilizer sales are being published through the processing of individual sales invoices made by fertilizer dealers in North Carolina. Semi-annual reports showing fertilizer sales within each county of mixed fertilizer, by grades, and fertilizer materials, by types, are automatically drawn from summary cards produced at the time monthly reports are compiled. Thus, the publication of semi-annual reports of fertilizer uses by counties is expedited.

During the fiscal year 1967-68 the division also tabulated inventories of North Carolina-grown nursery stock as reported by 344 licensed nurserymen in North Carolina in the preparation of a comprehensive Directory of North Carolina-Grown Nursery Stock. This publication has been in considerable demand, and it is anticipated that a new directory will be published at some later date.

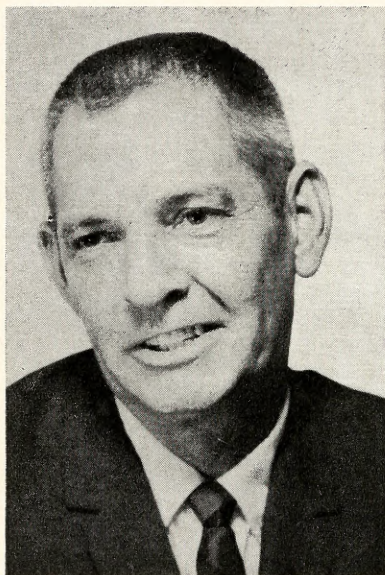


Although statistical reports disseminated through the division are quite comprehensive in nature, the division continues to have increasing demands for additional statistics not currently available at the county level. Of particular concern is the need and demand for estimates of agricultural income by counties. Although such information is difficult and costly to produce, serious thought should be given to the development of a program through which county estimates of agricultural income might be made available on a continual annual basis.

## STRUCTURAL PEST CONTROL DIVISION

RUDOLPH E. HOWELL

*Director*



Public demand for elimination of fraudulent structural pest control practices during the preceding decade resulted in the enactment of the North Carolina Structural Pest Control Law by the 1955 General Assembly. The pest control industry as well as the general public has benefited from the law for fraudulent operators reflect harmfully on legitimate and dependable operators.

Many changes have occurred in structural pest control since the law was enacted. Standards of the pest control industry have been elevated and there has been

a notable improvement in the quality of services rendered by the industry resulting in its acceptance in the business world.

The law was amended in 1957; however, the most significant changes in the law were made during this biennium. Revisions in the law by the 1967 General Assembly provided for the creation of a Structural Pest Control Division in the Department and placed the responsibility for administration and enforcement of the law directly under the Commissioner of Agriculture.

The amended law abolished the North Carolina Structural Pest Control Commission, which heretofore had administered the law, and created a Structural Pest Control Committee to be composed of five members. Under the amended law the Commissioner of Agriculture appoints two committee members, one from the State Department of Agriculture and one who is serving as a member of the Board of Agriculture; two committee members are appointed by the Governor from the pest control industry; and the Dean of the School of Agriculture at North Carolina State University appoints one member from the Entomology faculty at the University. The new law stipulates that the Director of the



Structural Pest Control Division shall serve as Secretary to the committee.

The primary function of the Structural Pest Control Division is to enforce compliance with the law, rules, regulations and requirements.

Responsibilities of the division include: examining of applicants for licenses; licensing qualified applicants; registering employees of license holders; and inspecting records, equipment, and work of licensees. The division operates entirely on examination, license, registration, and re-inspection fees. Information on the division operations for this biennium is presented in the following sections.

### EXAMINATIONS

A state structural pest control license is required for each of the following phases of structural pest control: (1) control of wood-destroying organisms by any method other than fumigation, (2) control of household pests by any method other than fumigation, and (3) fumigation.

The law requires applicants for licenses to have practical experience and knowledge of practical and scientific facts underlying the practice of structural pest control. One of the basic qualifications for a license is two years experience as an employee or owner-operator in the field of structural pest control for which the license is applied. All applicants must pass a satisfactory oral or written examination, or both oral and written examinations.

Information on examinations administered during this biennium is presented below:

	1966-67	1967-68
Number of persons who made application to take the examination .....	35	23
Number of applicants who took the examination .....	29	21
Number of applicants who were refused examination .....	1	2
Number of examinations given .....	75	71
Number of examinations failed .....	42	47
Number of examinations passed .....	33	24

## LICENSES

Structural pest control licenses are issued to the individual rather than the company. Each non-resident license holder is required by law to designate a resident agent and to maintain a complete set of records with the agent on the work he performs in this state.

A summary of licenses issued during this biennium is presented below:

	1966-67	1967-68
Number of individuals licensed.....	238	238
Number of individuals to whom initial licenses were issued .....	19	14
Number of companies represented.....	183	179

During the 1967-68 fiscal year, 234 individuals were licensed to engage in the control of wood-destroying organisms; 201 individuals were licensed to engage in the control of household pests; and 37 individuals were licensed to engage in fumigation work. Thirteen individuals failed to renew their licenses for the 1967-68 license year (June 30, 1967 to July 1, 1968). Two of these individuals died and the other eleven reported that they were going out of business.

## REGISTRATION

All license holders are required under the law to register with this division the names of all their employees who are servicemen, salesmen, solicitors, and estimators. Each employee for whom registration is made is issued an identification card. This card is to be carried on the person at all times when performing any phase of structural pest control work. The card holder is required to display his card upon demand to the person for whom any phase of structural pest control work is being performed.

The number of identification cards issued in the first year of this biennium was 532, and in the second year 1,036.

## INSPECTION

Revisions made in the structural pest control law by the 1967 General Assembly resulted in an increase in license and identifi-



cation card fees. The additional funds enabled the division to increase its inspection staff from one inspector to five inspectors. North Carolina was subdivided into four areas with inspectors located in Hickory, High Point, Raleigh, and Chinquapin.

Information on inspections during this biennium is presented below:

	1966-67	1967-68
Number of inspections of records and equipment .....	112	264
Number of treated jobs inspected.....	158	1,325
Number of samples of treated soil tested.....	85	497
Number of licensees whose soil samples were deficient in toxic chemical.....	18	43

Major discrepancies in treatment requirements were found in thirty percent of the jobs inspected during the 1966-67 fiscal year and nineteen percent of the jobs inspected during the 1967-68 fiscal year. Twenty-eight percent of the soil samples tested during the 1966-67 fiscal year were found to be deficient in toxic chemical whereas only fourteen percent of the soil samples tested during the 1967-68 fiscal year were found to be deficient in toxic chemical.

Personnel of this division made a total of 2,710 inspections during the 1967-68 fiscal year.

#### STRUCTURAL PEST CONTROL COMMITTEE

The committee is authorized under the law to make such seasonable rules and regulations with regard to structural pest control as may be necessary to protect the interests, health, and safety of the public. In addition it is the duty of the committee to conduct hearings relating to the suspension and revocation of structural pest control licenses. Information on activities of the North Carolina Structural Pest Control Commission during the 1966-67 fiscal year and the committee during its first year of currently pending in the court.

	1966-67	1967-68
Number of licenses revoked.....	1	1
Number of licensees summoned for hearings.....	8	4
Number of licensees charged re-inspection fees.....	25	102
Number of re-inspection fees charged.....	109	168

During this biennium nineteen persons were tried in the courts for violations of the structural pest control law. Seventeen were convicted and of this number one filed an appeal. The appeal is currently pending in the court.

## VETERINARY DIVISION

DR. T. F. ZWEIGART

*State Veterinarian*



The work of the Veterinary Division affects the health and well-being of all North Carolina residents. The division is charged with the responsibility of preventing, controlling and, when possible, eradicating the transmissible diseases of livestock and poultry; and the inspection of meat and poultry products used for human consumption. Many animal diseases also affect human beings. The losses caused to farmers by animal diseases are but a part of the total. They are eventually shared by the consumer in reduction of supply, lower quality and higher prices of animal products.

The division's activities involve service and regulatory functions. The work is accomplished through administration of applicable laws and regulations and operation of the animal disease diagnostic laboratories. Much of the work is done in cooperation with the Animal Health Division of the United States Department of Agriculture.

North Carolina does not stand alone in its animal disease control program. Other states, the federal government, and foreign countries have restrictions on the movement of diseased animals and animal products. We must maintain the health of the state's livestock and poultry or risk losing an appreciable share of our markets. Our state has been a leader in reducing the losses caused by animal diseases. More recently, its meat and poultry in-



spection service has become a model for other states to follow. There is no reason why our leadership shouldn't continue.

### COMPULSORY MEAT AND POULTRY INSPECTION SERVICE

This service is authorized by two state laws which became effective July 1, 1962. The inspection has benefited consumers, livestock and poultry producers, slaughterers, and processors. There has been a general upgrading of supervised slaughtering and processing establishments through new construction, remodeling, repairing and replacement of obsolete equipment to meet the minimum requirements of the laws and regulations. The improvements already amount to several million dollars and are continuing.

In the course of inspection, diseased livestock and poultry are traced back to the herds or flocks of origin. This has been of great value in reducing the amount of tuberculosis, brucellosis, hog cholera and other diseases of animals in the state.

The division has cooperated with the federal government under the Talmadge-Aiken Act since April 15, 1968. This involves performing federal meat inspection with state employed inspectors. Three establishments were operating under the act at the end of the biennium. Approximately 40 plants are expected to come under the law early in the next biennium. Fifty percent of the inspection service cost for plants operating under the Talmadge-Aiken Act is paid by the federal government.

The Wholesome Meat Act, enacted by Congress December 15, 1967, requires that state meat inspection standards equal or exceed those of federal inspection within two years of the date the law was passed. The new law has caused no serious problem for North Carolina, since our state system already was equal to the federal one in most respects and superior in others. The availability of laboratory facilities is an exception. Samples are now examined at the animal disease diagnostic laboratory and by personnel of the Chemistry Division. The proposed new North Carolina Department of Agriculture Analytical Laboratory will include facilities for analyzing samples referred from the meat and poultry inspection service.

An agreement was signed with federal officials June 1, 1968, and 255 slaughtering and processing establishments were started under State-Federal Meat Inspection. The "rule of reason" is being applied during the transition period.

The Meat Inspection Service cooperates with the Weights and Measures and Chemistry Division of this Department, State Board of Health, and the Department of Water Resources to improve the quality of the meat and poultry products purchased by consumers in North Carolina.

The Meat Inspection Service works with the Consumer and Marketing Service of the United States Department of Agriculture, and other states with the objective of making inspection uniform throughout the United States. Since its beginning in 1962, there has been a steady increase in the volume of meat and poultry products produced under state inspection.

The Commissioner was informed recently by a spokesman for the Consumer and Marketing Service, United States Department of Agriculture, that North Carolina is one of four states having an adequate poultry inspection service, and that its meat inspection service is one of the best in the nation. The coming biennium should see a large increase in the amounts of meat and poultry products produced under inspection. This will be beneficial to producers, slaughterers, processors and consumers.

Following is a statistical summary of meat and poultry inspection in the 1966-1968 biennium.

<b>Slaughtered</b>	<b>1966-67</b>	<b>1967-68</b>
Hogs .....	483,199	517,355
Cattle and Calves .....	112,575	105,300
Sheep and Goats .....	1,636	1,186
Rabbits .....	4,908	5,881
Chickens .....	11,871,783	11,674,954
Turkeys .....	16,235	19,562
<b>Carcasses condemned</b>		
Hogs .....	833	1,018
Cattle and Calves .....	189	197
Sheep and Goats .....	6	2
Rabbits .....	28	19
Chickens .....	329,328	476,246
Turkeys .....	350	385
<b>Livers condemned</b>		
Hogs .....	184,699	209,456
Cattle and Calves .....	13,705	12,430
Sheep and Goats .....	81	150
Rabbits .....	245	404



**Products processed under State Inspection (pounds)**

Sausage .....	18,256,499	19,108,655
Wieners .....	18,601,194	20,060,661
Hamburgers .....	18,339,866	18,982,099
Steaks, chops, roast, stew beef .....	14,028,676	15,272,084
Placed in cure, cooked, smoked hams, sides, barbecue and other .....	29,121,159	30,818,319
Cheese, chili loaf and other .....	27,315,531	31,338,113
Sliced bacon, beef and other .....	10,704,233	10,628,482
Lard .....	4,439,709	4,365,275
Miscellaneous .....	1,365,232	5,701,785

**HOG CHOLERA**

Hog cholera is a disease which affects only swine. It is estimated that this one disease has cost producers in excess of fifty cents for every hog marketed. North Carolina entered Phase III of the state-federal hog cholera eradication program January 1, 1967. Since that time the state has experienced some serious losses from the disease. Phase III is the first in which indemnity is paid to owners for swine destroyed because of the disease. The increased number of cases reported may have reflected better reporting rather than an actual increase in hog cholera.

Prompt reporting of outbreaks of swine diseases by owners, veterinarians and others has made it possible to quarantine and eliminate infected herds before further spread has occurred in most instances. Strict enforcement of the garbage feeding law and regulations, and controlled use of hog cholera vaccines have helped reduce occurrence of the disease. June, 1968, was the first month during which no hog cholera outbreaks were reported since the disease was introduced into North Carolina about the middle of the 19th century.

Vaccination has played an important role in the control of hog cholera. However, soon after the eradication program was initiated, it became apparent that the modified live virus hog cholera vaccines being used were a mixed blessing. They protect but are also capable of causing outbreaks of hog cholera. It will not be possible to eradicate hog cholera as long as this type vaccine is used.

Approximately 79% of the indemnities paid out by the state and federal governments in North Carolina for hog cholera in

the calendar year 1967 were for outbreaks traceable to the improper use of modified live virus vaccines. Effective February 15, 1968, the purchase and use of this type vaccine was placed on a permit basis. Contingent upon adoption of a proposed change in federal regulations which will make the interstate movement of hog cholera vaccine illegal after December 31, 1968, we intend not to allow the use of modified live virus hog cholera vaccines in North Carolina beginning January 1, 1969.

During the 1967 calendar year North Carolina paid out \$111,337.53 in indemnities to farmers for 164 herds depopulated because of hog cholera. This was in addition to that paid by the federal government. The number of animals involved was 21,723. The fact that it was possible to salvage non-affected animals for slaughter accounted for the low average amount per head. Forty-nine outbreaks, involving 3,449 swine, occurred during the first six months of 1968. The amount of indemnity paid by the state was \$38,863.21.

### BRUCELLOSIS

Brucellosis is an infectious disease which affects most species of farm animals and man. It is costly to live with, but experience has shown that it can be eradicated from a state or country.

Progress in eradication has been speeded up considerably in recent years by several developments. The availability of a test which can be run on pooled milk samples from a dairy herd has made it possible to screen large numbers of animals for the disease with little effort and expense.

Identification of slaughter cattle with numbered backtags at the first point of concentration after they leave the farm makes it practical to collect blood samples for test at the time of slaughter. This enables us to locate many infected herds without the necessity of testing large numbers of noninfected herds.

The serum plate and tube agglutination tests have been used as official tests for brucellosis for many years and have been very valuable in the eradication program. However, it has been realized for some time they bypass a small percentage of infected animals and label a few noninfected animals as infected. The Card Test developed within the past several years is largely without these faults. It was adopted as the official test in North Carolina in August, 1967, and has been an important factor in



reducing to an all time low the incidence of brucellosis in North Carolina cattle.

### Summary of Brucellosis Blood Tests

	1966-67	1967-68
Number of herds tested .....	9,448	7,100
Number of cattle tested .....	176,407	162,784
Number of infected herds .....	134	116
Number of infected cattle .....	352	309

### Summary of Brucellosis Ring Tests (Milk)

	1966-67	1967-68
Number of herds .....	18,383	19,909
Estimated number of cattle .....	604,630	640,690
Negative herds .....	18,310	19,850
Suspect herds .....	73	59

The brucellosis program in swine has been intensified. At the beginning of the biennium, 9 herds were classified as Validated Brucellosis-free. Two years later, 37 were validated. This progress is especially important because these herds serve as sources of breeding stock for the industry. It will be less of a problem to eradicate brucellosis from the swine of North Carolina if commercial pork producers are able to buy breeding animals from herds known to be brucellosis-free.

### TUBERCULOSIS

Eighty-three of our counties are now rated as tuberculosis-free, while the remainder are modified accredited tuberculosis-free. Most of our efforts have been devoted towards eradicating the disease in cattle. During the biennium 308,324 cattle in 6,700 herds were tested and 18 reactors, involving 16 herds, were discovered.

The Meat Inspection Service has been invaluable in the tuberculosis eradication effort. The use of numbered backtags applied to slaughter cattle at the first place of concentration after they leave the farm makes it possible to locate herds from which infected animals originate.

An undetermined amount of tuberculosis remains in our swine and chicken populations. A method of tracing swine infected with tuberculosis (and other diseases) from slaughtering establishments back to the farm is urgently needed. It is hoped that we will be able to establish an eradication program for tubercu-

losis in these species soon.

It would be a mistake to become overly optimistic because of the progress already made. Complacency could result in tuberculosis again becoming widespread in cattle.

### ANAPLASMOSIS

Anaplasmosis is an infectious disease of cattle transmitted by ticks, biting flies and other insects, as well as the use of contaminated needles, dehorners, etc. It causes large losses in the Coastal Plains area. Fortunately, a reliable blood test for the disease is available. It is possible to rid a herd of anaplasmosis by blood testing all animals, and isolating and treating those which are shown by the test to be infected carriers of anaplasmosis.

It is anticipated that an anaplasmosis eradication program will be put into effect so that farmers who wish to free their herds of anaplasmosis can do so. Maintaining a noninfected herd is especially important for those who sell breeding animals.

### OTHER DISEASES

Vesicular exanthema of swine has not appeared in North Carolina since 1954; and foot and mouth disease, which affects all cloven footed animals, was eradicated from the United States in 1929. However, vesicular stomatitis which is indistinguishable from the two diseases mentioned, except with laboratory help, does occur in this state.

To be on the safe side, every outbreak of a vesicular disease must be considered as possible foot and mouth disease until proven otherwise. England's recent experience shows how expensive to the livestock industry an outbreak of foot and mouth disease can be.

Virus pneumonia and atrophic rhinitis of swine causes sizeable losses to the state although they kill relatively few animals. Unfortunately, it is not possible to detect the diseases with a high degree of certainty in living animals. For this reason it is difficult, though possible, to develop and maintain non-infected herds. It is especially important that owners selling breeding stock have disease-free herds. Personnel of the Veterinary Division are working with interested owners to accomplish this objective.



## LIVESTOCK MARKET INSPECTION

The new Public Livestock Market Act passed by the 1967 North Carolina General Assembly has made it possible for Veterinary Division personnel to do a better job of protecting the health of livestock sold through public livestock markets. There were 45 public livestock markets in the state as of June 30, 1968. Inspectors from the Veterinary Division are responsible for seeing that the markets are operated in accordance with the law. Frequent inspections are made to be sure minimum standards for sanitation are met, sick animals are not offered for sale, and that proper tests and vaccinations are conducted on animals.

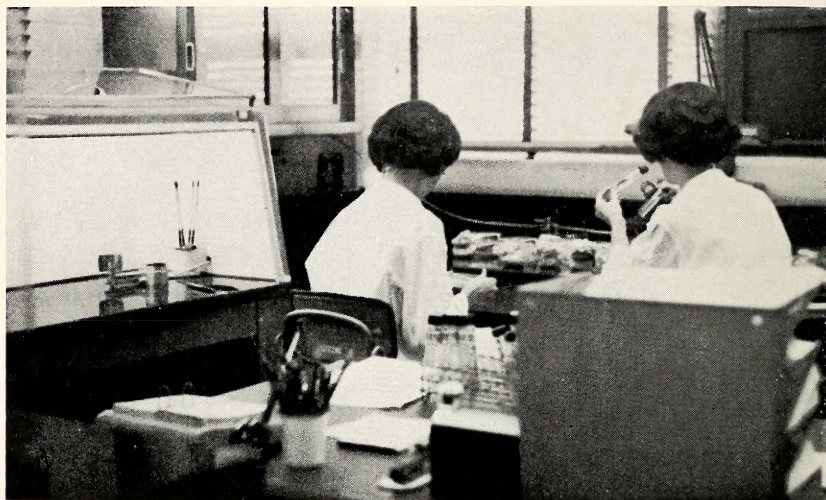
Livestock markets are important to the livestock industry of North Carolina. However, it should be recognized that without attention to disease control, they can contribute to the spread of many animal diseases.

Livestock market operators have shown very good cooperation with employees of the Veterinary Division. An agreement has been reached with many of the leading livestock market operators whereby they will use serially numbered backtags supplied by the federal government rather than their own sales tags on cattle. Since this identification will remain attached through post mortem inspection at slaughtering plants, it will simplify the detection of diseased herds.

Poultry Specialists of the Veterinary Division are responsible for licensing hatcheries and chick dealers and regulating their operations. They, or authorized agents under their supervision, conduct pullorum-typhoid tests on hatchery flocks as required by law. Culling of such flocks is done at the time of testing.

The plate agglutination test is used on most flocks and is done in the poultry house. The tube agglutination test (which is performed on blood transported to one of the division's diagnostic laboratories) is used on flocks shipping eggs to certain states which require it, and on all turkey flocks. This work is done under the National Poultry and Turkey Improvement Plans. The incidence of pullorum-typhoid disease has reached an all time low in the state.

The poultry industry brings in about three hundred million dollars a year to the state's poultrymen. The number of chickens in hatchery flocks increased by 1,360,000 during the biennium and is expected to increase about 1,100,000 during the next two years. Turkey production increased by about 10% during the



A technician innaculates embryonated chicken eggs with suspected virus containing material. Egg innaculation is used to isalate and identify many disease producing viruses.

same period.

Because of serious losses to the poultry industry, a Mycoplasmosis (PPLO) control program was initiated April 11, 1967. Since then about 618,000 blood samples have been collected by the poultry specialists and tested at the diagnostic laboratories. Very good results have been obtained in reducing losses associated with the disease.

#### Summary of Pullorum-Typhoid Testing

	1966-67	1967-68
Number of chicken flocks plate tested.....	1,557	1,104
Number of chickens .....6,700,389		5,819,114
Number of chicken flocks tube tested.....	51	37
Number of chickens .....309,425		235,137
Number of reactors .....0		0
Number of turkey flocks tube tested.....	83	61
Number of turkeys .....240,312		173,000
Number of reactors .....0		0

#### DIAGNOSTIC LABORATORY SERVICE

The Veterinary Division has the responsibility of operating nine animal disease diagnostic laboratories. The central one is located on Western Boulevard in Raleigh. Branch laboratories





These pictures of the central diagnostic laboratory in Raleigh show the overcrowded conditions there. Above, technicians are performing hematological and bacteriological tests in extremely close quarters.



The laboratory is so pressed for room in every phase of its work that secretarial work and frozen tissue sections must be carried on in one over-crowded room.

are located at Edenton, Monroe, Murphy, North Wilkesboro, Robbins, Rose Hill, Shelby and Waynesville.

The laboratory at Edenton is equipped and staffed to diagnose diseases of livestock and poultry. Activities at the other branch laboratories are concerned primarily with the diagnosis of poultry diseases.

The central laboratory is staffed and equipped to diagnose infectious and noninfectious diseases of livestock, poultry and other animals. Specimens from the branch laboratories are sent to the one in Raleigh for histological examinations, fluorescence microscopy, virus isolations, serum neutralization tests, and other procedures too involved for branch laboratory facilities. When information to supplement laboratory findings is needed, visits to herds and flocks are made by laboratory veterinarians.

The central laboratory does not have sufficient space for work to be performed in the best manner. Crowding of personnel and equipment prevents the maximum utilization of either. In addition, the lack of space makes it impossible to add facilities needed to maintain and improve our services to the livestock and poultry industries. The brucellosis laboratory is located on the third floor of the Agriculture Building. It should be a part of the central laboratory where the work could be done more efficiently.

Many diseases of animals are caused by poisonous substances. Facilities for chemical analysis are practically non-existent at the diagnostic laboratories and such service is not readily available from other agencies.

The expanded Mycoplasmosis (PPLO) testing program along with other demands for services made by the livestock and poultry industries have taxed our laboratory facilities and personnel to the point where it is impractical to extend and improve services except at the expense of other services now considered essential.

One wing of the analytical laboratory requested for the department is intended to be used as a new central animal disease diagnostic laboratory to replace the obsolete and overcrowded quarters now occupied on the North Carolina State University campus. The new laboratory would satisfy our space requirements and make it possible to offer better service to the public.



## WAREHOUSE DIVISION

WILLIAM G. PARHAM, JR.

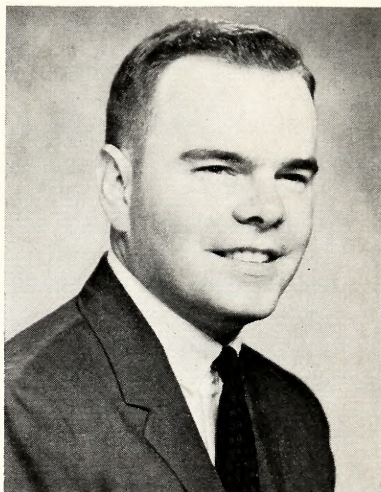
*State Warehouse Superintendent*

The Warehouse Division administers the statutes and regulations of the North Carolina Warehouse Law. The law authorizes the State Warehouse Superintendent as an agent of the State of North Carolina, to conduct a system of warehousing in North Carolina for the public storage of agricultural commodities.

A system of licensing, bonding, and examination of public warehouses assures the farmers and others of a safe place to store agricultural commodities at reasonable rates and maintains the integrity of warehouse receipts issued for such commodities so that they will be acceptable generally as security for loans and for trading purposes.

A cooperative agreement has been in effect with the U. S. Department of Agriculture since the early 1920's. Under this agreement the North Carolina state licensed warehouses in turn are licensed under the federal warehouse act. The state furnishes one examiner and office space for the federal supervisor. The examination program is supervised by federal personnel.

The warehouse receipt is an important document in connection with the marketing of agricultural commodities. For example, the majority of the spot cotton deliveries in satisfaction of sales made between the time the cotton leaves the gin yard and arrives at the mill warehouse are made on the basis of warehouse receipts. The commodity merchant and the producer finance on the basis of such receipts. A large portion of the government price support loans are made on the basis of warehouse receipts,



and much of the delivery mechanism of future markets depends on warehouse receipts for settlement of contracts.

For the producer, commodity merchant, futures trader, financial institutions or CCC to accept a warehouse receipt freely, they must have reasonable assurance that they can obtain prompt delivery upon request, of the commodities represented by the receipt.

In order to maintain a distinctive type of warehouse receipt which meets these needs and is acceptable to the trade nationally, the 1967 State Legislature amended the North Carolina Warehouse Law to provide that if the system should suffer at any time any loss not fully covered by the bonds and indemnifying fund, the State Board of Agriculture has the power to make such losses on cotton good by repeating for another twelve months, a special levy of 25¢ per bale on all cotton ginned; and the power to make good such losses on soybeans, corn, wheat and grain sorghum by levying an assessment of one cent (1¢) per bushel on each bushel of soybeans, corn, wheat and grain sorghum sold by producers through commercial channels for such period of time as is necessary to pay off said loss.

The cotton warehouse industry as a whole is in a period of readjustment. Cotton stocks are probably as low generally as they have been for a number of years. The licensed space that many warehousemen added during the recent heavy carry-over periods is now empty and is being dropped from licensed space. There has also been some drop-out of small operators in marginal production areas who depended on carry-over stocks for their margin of profit.

On the other side, the need will continue for those houses located in producing areas. The fast moving harvests require greater capacities than were formerly needed to handle the same crop volume. There is a growing need for acceptable warehouse receipts for financing purposes as more cotton enters trade channels directly without first entering price support programs. Also, licensed warehouses with CCC agreements must be available to producers if price support programs are to serve their proper function. Thus, after the period of readjustment the number and capacity of cotton warehouses under license will probably increase.

There is also a changing trend in the grain warehouse industry. As with cotton, the rapid grain harvests require a greater capacity and faster handling houses to receive the same crop



volume. There are also changes in transportation patterns and rate structure that are having an effect on the industry. The size and handling capacity of houses are increasing in order to take advantage of multiple car rail rates and barge movement of grain. There are other transportation proposals pending which will further the trend toward larger more rapid handling houses.

As is the case with cotton, for the grain price support programs to function properly there must be more licensed warehouses with CCC agreements available to producers deserving to use the programs. The space under license is expected to continue to increase due to the need for more public storage and for warehouse receipts to finance the assembly of larger stocks required to take advantage of quantity rates.

The State Warehouse System fund can, under the law, be used for securing first mortgages on warehouse construction. The purpose of this measure is to aid and encourage establishment of warehouses operating under the system. The law requires that 10 percent of the fund be invested in bonds, thus permitting the remaining 90 percent to be used for warehouse construction. The law also specifies that such first mortgages shall be for not more than one-half of the actual value of the warehouse property covered by such mortgages and that they be amortized for not more than ten years.

The State Warehouse Superintendent makes a careful investigation before a loan is made to determine whether in his opinion there is a need for the warehouse and if the loan is safe. His findings are presented, and must be approved by, the State Board of Agriculture, the Governor and the Attorney General. The interest derived from these investments is used to pay the expenses of operating the system. During the biennium there was one loan totaling \$41,000 made from the State Warehouse System Fund.

Due to default in payments, it was necessary to foreclose on a loan made to the Moyock Trading Company, Moyock, N. C., during this biennium. This system did not suffer any loss of principal on this foreclosure.

There are 93 cotton warehouses operating under the State Warehouse System with a capacity of 803,915 bales and nine grain warehouses with a capacity of 2,745,000 bushels. Also there are three seed warehouses under the system with a capacity of 76,000 bags.

Properly controlled warehouse receipt financing is convenient

to the borrower and safe to the lender. It enables financial institutions to make loans to individuals and relatively small businesses with a safety that can be obtained in no other practical way.

### June 30, 1966

Cash on hand principal fund	Cash on hand supervision fund	First Mortgage Loans	Invested in Gov- ernment Bonds & Treasury Bills
\$48,509.34	\$31,585.56	\$525,530.22	\$ 88,000.00

### June 30, 1968

\$ 2,664.64	\$33,113.04	\$388,622.41	\$248,000.00
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# DIVISION OF WEIGHTS AND MEASURES

JOHN I. MOORE

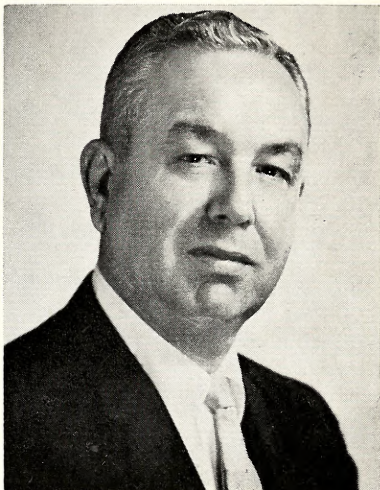
*Superintendent*

During the past year the public has been made more aware of consumer protection than at any time in past history. Due to a variety of circumstances and the demands from all segments of the population, President Johnson in his address to the 89th Congress requested that laws be enacted by the Congress pertaining to consumer protection.

From this came the act that is now known as the "Fair Packaging and Labeling Act" which covers all types of merchandise of any kind and requires that the labeling of all packages be placed in a certain area; namely, the lower 30 per cent of the label and that this label be plain and conspicuous and easily read by the consumer public.

The Congress saw fit to divide the responsibility of the enforcement into separate agencies of government. The responsibility for enforcement of foods, drugs, and cosmetics was placed under the Pure Food and Drug Administration, Division of Health, Education, and Welfare. All items other than foods, drugs, and cosmetics were placed under the Federal Trade Commission. Both of these agencies are now in the process of putting into effect the final rules and regulations that pertain to their respective jurisdictions.

In this connection it would be well to point out that the Fair Packaging and Labeling Act also made void certain sections of North Carolina's uniform Weights and Measures Law in that the Act passed by Congress specified that all laws or rules and



regulations which were contrary to or different from their laws were void. This necessitates a rewriting of certain sections of our law in order to make them comply and be compatible with the laws passed by Congress.

This same law gave to the National Bureau of Standards authority to investigate and eliminate when, in their opinion, there was a proliferation of package sizes of any commodity. For example, it was found that instant coffee was being put up in 56 different size containers. It can be readily seen that with such a variety of sizes that the manufacturers were required to keep an unused supply of various size containers on hand which in the end would have the effect of increasing the cost of the commodity. The producers of instant coffee have already been contacted and have voluntarily agreed to reduce the number of sizes that they will offer for sale from 56 to 11.

A number of other items are now being considered; namely, paper towels, napkins, peanut butter, soaps and detergents, mayonnaise. This investigation will undoubtedly result in a reduction of sizes being offered. This in turn will result in the consumer being able more readily to compare prices of the sizes to ascertain which is the best buy and for which he receives the most for his or her money.

As you are well aware, the Act was opposed by processors and manufacturers who put up all types of commodities. For them it is resulting in a costly procedure requiring them in the majority of cases to redesign their labels. In order to give the consumer better comparable figures to work with, the weight on all items weighing less than 4 pounds or in liquid measure less than 4 gallons must be labeled as follows: Whereas a package only previously carried a net weight of 1 pound, it must now read "16 oz.—1 lb."; and in the case of liquid measure where it formerly read 1 quart, it must now read "32 oz.—1 qt. liquid."

The consumers of North Carolina have been fortunate in the past that the laws of this state required all of the requirements of the new Act of Congress except stating the position where the net declaration should be, and the additional markings as to ounces in addition to the pounds designation. Therefore, it can readily be seen that in our opinion approximately the same consumer protection was being given in North Carolina in the majority of instances prior to the passage of this Act of Congress.

North Carolinians continue to have at their disposal strong



consumer protection programs. Effective protection is a goal of the N. C. Department of Agriculture, and it is hoped consumers will become more aware and thus better able to use the available services.

Working in the field of weights and measures, our inspectors strive to adapt inspection procedures to meet swift changes in merchandising. When the State's uniform Weights and Measures Law was passed in 1928, for instance, a customer would step to the grocery counter, request some quantity of merchandise and, most likely, see it weighed out before him. And for this purpose many types of scales were used. Today, nearly all stores, large or small, present their merchandise in prepackaged and preweighed form. And a greater variety of goods are offered for sale with some of the largest supermarkets displaying 6,000 or more items.

Our practice today takes account of these changes. We inspect representative samples of the many goods found on display, and see that there is an accurate declaration of net contents on each package.

Recently we have found 8 percent of all packages, when inspected, to be short of the declared weight. When such insufficiency occurs it is generally the result of poor packaging which causes items to shrink or lose moisture. In this way label declarations which are accurate at the plant may become inaccurate at the time of sale from loss of weight or quantity. Such substandard items are subsequently condemned or removed from display in keeping with North Carolina's law which requires packages to be correctly labeled at the time of purchase.

The inspection of prepackaged merchandise complements other protection work performed by the division. By law, all devices for weighing or measuring must be submitted for approval before being offered for sale. Once submitted, we check such devices to see that they are accurate and constant, and are not susceptible to fraudulent use.

We realize, of course, that mechanisms within such devices may malfunction even though they proved sound upon initial inspection. Therefore, our inspectors test them again periodically to assure accuracy. Included among the devices inspected are scales used in grocery stores and supermarkets, prescription balances used to compound drugs, and motor and truck scales used at graineries, and at coal yards, junk yards, cotton gins, quarries, etc. In addition, twice each year we check livestock

scales which are in use at buying stations and slaughter houses—an activity rising proportionately with present growth in the livestock industry in North Carolina.

We also check instruments used to measure material sold by length, as well as checking the actual length of packaged material to ensure the packages contain the quantity stated on the label.

A consumer is anyone who buys and uses anything. Our division protects "consumers" such as livestock raisers and tobacco-men, as well as purchasers for home and family.

For instance, men from Weights and Measures spot-check the weight of tobacco to assure equitable dealings. This practice supplements our effort, more generally, in certifying weighmasters whose assistance is sought by livestock buying stations and livestock auction markets, as well as tobacco warehouses. Thus, by careful selection of personnel followed by proper supervision we guarantee that all types of consumers will be served capably and honestly.

There is also consumer protection for persons who buy cement blocks, cinder blocks, and other concrete masonry units. In 1947, the State Legislature enacted a law requiring that such structural units possess a basic, safe load bearing strength. Enforcing this law, Weights and Measures inspectors see that units of concrete masonry will last and support the weight put upon them. Whereas the average sample in 1947, tested at 660 pounds per square inch, we now find the bearing strength of samples averaging 1,100 pounds per square inch.

In times past, after North Carolina's flue-cured tobacco grower had labored and gone to the expense of raising and barning his crop, he still risked losing it. His curer may have been badly installed or badly designed, and too often a fire would break out and burn barn and crop.

Fires from faulty or ineptly installed curers rarely plague the Tar Heel farmer today. As part of their consumer protection responsibilities, our inspectors go over each curer design to see it meets safety standards. Designs for both oil and gas curers must be approved before they can be sold. Furthermore, during the tobacco curing season our inspectors travel and attempt to check each newly installed curer. If improperly installed, the distributor is held responsible for correcting the hazard at no extra charge.



Inspection of cucumber graders is another phase of our work. In fact, North Carolina is the only state in the nation requiring that cucumbers be sold on the basis of size, or requiring, further that cucumber grading machines be correctly adjusted. With this inspection, a grower can be confident that his earnings will justly reflect the quality of his produce.

Many other phases of Weights and Measures work could be specified. But the purpose of enumerating those given here is to provide some idea of the range of protection now offered consumers by our division.

We are earnest in our desire to maintain the very best service possible. Perhaps the best indication of this earnestness is the fact that each year all of our inspectors return to school. For one week they refresh their knowledge and learn new methods and procedures. Then, throughout the year they take monthly tests to help maintain excellence.

## GASOLINE AND OIL INSPECTION DIVISION

JOHN I. MOORE

*Director*

The Gasoline and Oil Inspection Division of the North Carolina Department of Agriculture is another division which has offered consumer protection since its inception.

The first laws relating to petroleum products were passed in the late 1890's. This, of course, was prior to the advent of motor cars being driven by petroleum products. The original law was to protect the consumer from kerosene which had too high a sulphur content. Kerosene with high sulphur content created havoc in the home and other places where it was used. It irritated the nostrils of people inhaling the fumes, sometimes causing illness when it was burned, and also caused rapid deterioration of cloth materials.

The present Gasoline and Oil Inspection Law was written and passed by the Legislature of 1937. The sole purpose of the law is stated in its beginning and which is "to protect the State's revenue and the consumer in the quality of the petroleum products he buys." For this purpose the tax laws relating to petroleum products were combined with the consumer protection.

North Carolina is one of 11 states in the United States having laws that specify the standards which must be met by petroleum products sold. These standards are constantly under review and are upgraded as needed, and this in turn assures the North Carolina motoring public and other users of gasoline, kerosene, diesel fuels, etc., of the highest quality products.

The Gasoline and Oil Inspection Division operates a central laboratory in Raleigh to which samples of petroleum products from throughout the state are sent each day. A complete analysis of each sample is made to determine that the product is meeting the standards specified by law or by rules and regulations.

Each time a product is condemned, the tank from which it was secured is immediately sealed and remains sealed until a disposition of the product can be made. These samples are sent in from inspectors manning 12 portable laboratories stationed throughout the state. In addition to collecting samples to be sent to the Central Laboratory, these inspectors also operate a portable laboratory in which certain chemical analyses are performed. The analyses performed in these portable laboratories give a definite indication as to the product's quality.

Few individuals in this state really are aware of the depth of consumer protection offered by the Gasoline and Oil Inspection Division as it relates to petroleum products. Not only is the quality of the product inspected to see that a high quality product is sold, but every gasoline dispenser is inspected at least twice a year.

These dispensing pumps at service stations are required to meet rigid specifications and are not to be permitted to operate if an error of each 5-gallon delivery exceeds a minus 5 or plus 5 cubic inches error. To give you some idea as to the minute quantities involved; a tablespoon full is equal to approximately 1 cubic inch or in other words, to put it in layman's language, if a gasoline pump fails to give within 5 tablespoons of product on a 5-gallon delivery, the pump is condemned until repairs or adjustments are made to make it give accurate measure.

All tank trucks or delivery vehicles delivering kerosene, fuel oil, etc., to homes or industry are inspected at least twice each year to determine that they are measuring accurately and are either approved or condemned. All transport trucks delivering products to service stations are checked at least once each year to determine that their calibrations are correct.



There are approximately 1,400 brands of gasoline being offered for sale or sold in this state and samples of these various brands are continuously being inspected, and the users of petroleum products in this state can rest assured that the products they are buying are of the highest quality obtainable.

During the past few years there has been considerable improvement made in the gasoline pumps and other meters which measure petroleum products. The Gasoline and Oil Inspection Law requires that these devices be approved by the division prior to being sold or used in this state for measuring product. This eliminates a device, pump, or meter being used which is susceptible to fraud, and this is another consumer protection.

One of the new devices which has been gaining in popularity during the past years is a unique self-service type of pump in which the customer can wait on himself and secure any quantity of gasoline he desires from service station by inserting either paper money or silver in the amount desired. The accuracy of these pumps is remarkable. The quality of petroleum products offered for sale in this state are superior products and the best which can be manufactured and as a consumer protection a constant vigil is being maintained to see that the customer gets the product which is advertised on the pump or device and continuously review its specifications and raise same when better product is obtainable so as to assure a continual superior product.

In 1949, the Legislature transferred from the Labor Department to the Department of Agriculture the administration of the laws regarding liquified petroleum gas. The consumer protection offered by this law deals with three phases; namely, quantity, quality, and safety. The rapid increase in this state of the use of this product necessitated our asking for two additional inspectors in this particular work. These inspectors were put on in January, 1968, thereby enabling us to much better perform the duties required by this act, which is designed to guarantee that the customer gets a good quality product, the correct quantity, and that the storage and handling is done in a safe manner, and in addition that the equipment used is equipment designed for this particular gas.

























